DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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CALENDAR FOR AUGUST.

The fields are all alive with sultry noise
Of labor's sounds, and insect's busy joys;
The reapers o'er their glittering sickles stoop,
Starting full oft the partridge covers up;
Some o'er the nestling scythe go bending on;
And shockers follow where their toils have gone,
Heaping the swaths that rustle in the sun.

CLARE'S *Shepherd's Calendar.*

AUGUST, with us, is not the principal harvest month. The wheat and rye crops are gathered in July, in New England, and we believe in all the wheat-growing States. But the oats, barley, peas and beans, and some early fruits and vegetables, are harvested in August. The late meadow grass is also cut in this month, which closes up the hay-harvest, with the exception of the "aftermath," as the English call it, or, as we usually term it, the "second crop."

The "Mirror of the Months" likens August to "that brief, but perhaps best period of human life, when the promises of youth are either fulfilled or forgotten, and the fears and forethought, connected with decline have not yet grown strong enough to make themselves felt; and consequently when we have nothing to do but look around us, and be happy." For it is in this month that the year, "like a man at forty, has turned the corner of its existence; but, like him, it may still fancy itself young, because it does not feel itself getting old. And perhaps there is no period like this, for encouraging and bringing to perfection that habit of tranquil enjoyment, in which all true happiness must mainly consist; with *pleasure* it has indeed little to do; but with *happiness* it is everything."

The great pressure of the season is over, and that is what the amiable writer whom we have quoted means, when he says "we have nothing to do but look around us and be happy." For in haying and early harvest, every body is in motion—every available hand is pressed into the service. "Hay-days" do not continue long, and they must be briskly improved. But now that the grass and rye and wheat-fields are smoothly shorn and their contents heaped in generous profusion in the bays and on the scaffolds of the barn, the farmer breathes freer, and looks upon the labors of his hands with a pride and satisfaction never equalled, unless, perhaps at the close of the great Indian Corn Harvest.

But we gather our ample harvests in a more matter-of-fact manner than did our ancestors.—We make no demonstrations of gratitude or joy. "They crowned the wheat sheaves with flowers, they sung, they shouted, they danced, they invited each other, or met to feast, as at Christmas, in the halls of rich houses; and what was a very amiable custom, and wise beyond the commoner wisdom that may seem to lie on the top of it, every one that had been concerned, man, woman and child, received a little present—ribbons, laces, or sweetmeats." But we *are* grateful, notwithstanding, and *read the newspapers* and *calculate*, more than did our ancestors.

But we must not linger too long in this pleasant field. Changes are taking place—the flowers are sensibly diminished, while later and hardier kinds appear, especially in waste places. Towards the end of the month the beech tree turns yellow, or the maple into crimson and purple, the first symptom of approaching autumn. The birds having reared their broods, are now in social companies feeding on the perfected seeds, or those who find more congenial aliment in insect life are congregating in larger companies, and make themselves busy in preparations for their annual migration south. The "swallow people" have either gone, or have gathered upon the roof of the barn, the old apple tree, the top rail of the fence, or the

corn spires, where they discuss in cheerful mood the necessary preparations for their departure.

But mere homely cares press, and we must attend to some of the duties which particularly claim attention in August.

Saving Grass Seeds.—Sufficient attention is not given to the saving of seeds. It is not a difficult matter, even without the aid of a machine for the purpose, to gather all the clover seeds that may be wanted on a farm of common size. It may be taken from the second crop, and threshed and cleaned up as are other seeds. So with herd's grass—leave a square of a few rods where the heads are large, and where no weeds are intermixed with the grass, and at the proper time cut, thresh and clean it up. Every dollar saved in this and various other ways by the farmer, will give his cash account a favorable aspect at the end of the year. Indeed, a little pains will give the small farmer all the seeds he requires, of every kind, so that he need not expend a shilling in money for them. Also, carefully preserve all other seeds which will be needed for another year's use.

Rye among Corn.—Those persons wishing to follow a crop of corn with rye, will find it a pleasant way to sow the seed on a flat hoeing and harrow both ways between the rows with a suitable implement, or rake in, which may be done rapidly.

Ruta Bagas.—Give them a dressing of ashes or superphosphate of lime just before hoeing, leaving a row occasionally without the fertilizer, that you may note the difference between them.

Budding.—Most persons now understand the process—we merely remind them that the time has come to do it.

Ditching and Meadow Mud.—August usually offers the most favorable season for ditching swamp lands, and for throwing out a supply of meadow mud. There is scarcely a farm but needs ditching somewhere. We can refer the reader to various tracts of land where their owners have been operating in a greater or less degree for ten years, in order to bring low places into the production of good grasses natural to upland. But they have all failed up to this time, though they have toiled annually to accomplish the desired object. The hands have been active, while not a ray of scientific skill has guided their operations. The perusal of a single chapter of a good work on *Draining* would show them how futile are such efforts against the laws of nature.

Those who have not used meadow muck will be surprised to find what a rapacious absorbent it is. If thrown out now and left where it may drain, it will become quite light in the course of three or four months, and then may be hauled in the winter at a trifling expense.

Laying Lands to Grass.—August, too, is a most favorable season for this operation. This practice is now, generally, well understood. On lands naturally too moist for hoed crops, it is a pleasant and profitable way of bringing it back to yield good grass crops, to plow deeply, manure well, pulverize finely, and seed liberally; and if well done in this month the young crop will gain sufficient strength to resist the freezing of winter.

The Wheat Crop.—There is really no necessity for the farmer to pay out much cash for flour. The winter blue-stem and some other kinds of wheat will flourish finely on most of our New England hills, provided it be properly put in, in August or September, the ground liberally enriched and limed. An acre will ordinarily be sufficient to supply a family of eight or ten persons. Make an experiment on a fourth of an acre, you that doubt.

These are only a portion of the things which it is particularly proper to attend to in the fervid month of August.

GREEN CORN PUDDING.

This is one of the numerous rural luxuries which the farmer has always the power to obtain at small expense. The following is the recipe for making it:—

Take of green corn, full in the milk, twelve ears, and grate it. To this add one quart of sweet milk, one-fourth of a pound of fresh butter, four eggs, well beaten, pepper and salt as much as may be deemed necessary; stir the ingredients well together, and bake in a buttered dish. Some add to the other ingredients a quarter of a pound of fine sugar, and eat with sauce. It is an excellent dish, cold or warm, with meat or sauce; but epicures of the most "exquisite taste" declare for it, we believe, and with the first service.

As green corn, particularly Prof. Mapes' new kind of sweet corn, may be kept the year round, this excellent dish may be as common on the table of the farmer as meat or bread.

ROTATION OF CROPS.

The difference of soils, location and other circumstances of different farms, renders the establishing a uniform series of crops in all cases impossible. In some places spring wheat must be raised instead of winter wheat. In others, rye must be made a substitute for wheat. A good course in some instances is:

1 year, Corn or potatoes.
2 " Wheat or rye.
3 " Clover.
Or 1 " Wheat.
2 " Corn, potatoes.
3 " Wheat, rye.
4 " Clover.

Or corn and potatoes may be followed by barley or peas, and then wheat. Before the crop of corn in all cases manure plentifully. Manure may also be applied to great advantage when the field is stocked to grass.

ABOUT BEES.

Mr. Editor:—Some two or three years ago, an acquaintance of mine gave me a receipt which he claimed as infallible against the bee moth or miller. If it is of any use, your readers "and the rest of mankind" are welcome to the knowledge of it. I have not tested it myself, partly because I could not get the sweet flag root in my vicinity, and partly because I do not suffer as yet, from the moth. I have but a small stock of bees, and I endeavor to keep my hives populous; then, as soon as the weather will admit, I raise the hive about a half inch or more from the bottom board, by pins in the corners. The miller then has a poor chance to deposit her eggs where the hive is full of bees. Besides this, I keep a good lookout to catch and kill all the marauders I can.

A friend residing in Kingston, Tenn., who keeps large numbers of bees, and has excellent success, pursues a similar course. A pair or two of wrens have for several years much assisted him, in building their nests close by. Especially when providing for their young would they visit the hives at all hours of the day, for any chance worm, or cast out larvæ of the bees.

But to the receipt, which follows: Take dried sweet flag, pulverize it very fine, make it into a dough, well working it with strong spirits of turpentine, then dry it in the sun or by a gentle heat. When well dried pulverize it again and again, make it into dough with spirits of turpentine, this time adding a portion of common salt Dry it and it is ready for use, and may be kept on hand. Strew it on the bottom board and around the hive. The miller, my informant says, will select it for depositing her eggs, where they will stay deposited as the mixture very soon destroys their vitality. It is inoffensive to the bees, but its power over life in the embryo is so great that even hens and other eggs are made worthless for hatching by wrapping a coating of it around them for a short time. T. E. Wetmore.

North Cannon, Michigan, June 26, 1854.

Maine Farmer.

THE MILKMAN'S CONVENTION,

AT MANCHESTER, N. H.

Pursuant to the notice, a meeting of the persons engaged in raising and selling milk was held at the City Hotel, July 3d, at 10 o'clock, A. M.

The Chairman stated the object of the meeting to be, to take into consideration the expediency of raising on the price of milk.

Mr. J. Plumer, of Goffstown, said,

That he usually kept 20 cows and sold his milk in Manchester, at 4 cents per qt., but at the price of cows, keeping, &c., he had come to the conclusion to abandon the business if the price was not increased,

Mr. Stevens, of Goffstown, said,

That he kept 20 cows and sold his milk in Manchester. He said when cows could be bought for $25, a piece, hay 10 or 12 dollars a ton, and corn four shillings a bushel, farmers could make money in raising and carry it to market for 4 cents a qu.; but now cows had advanced to 40 and 45 dollars, hay gone up to 20 and 25 a ton, corn a dollar and a quarter a bushel, he could not make it a paying business, and should stop if the price did not rise.

Mr. Swallow, of Nashua, said,

That he carried the milk of 30 cows to the city of Nashua, and had sold it for 4 cents per qu., but he said he preferred to raise pork than sell his milk for that price.

Mr. H. R. French, of Bedford, said,

That he had tried an experiment in taking the relative value of selling his milk and making it into butter, the result of which was that the latter gave the most profit.

Mr. Hall, of Bedford, said,

That he thought that it would be better for him to sell a portion of his hay and grain, than to raise milk at the present price.

Mr. D. H. Barr, of Bedford, said,

That his cows (and he had tried to get the best,) would not average more then five qts., during the year, and that no man could afford to sell milk at his door short of 3 cts. for 12 months, or 4 cents 6 months.

Mr. French, of Bedford, said,

That last fall he bought 6 cows, also bought his grain and hay, and kept an account of product, which cost him 4 cents per qt., allowing for shrinkage in his cows.

Mr. Shattuck said that the people in the city of Concord had paid 5 cents per quart for milk since last October, and that he had been informed that it was contemplated to advance to 6 cents per quart, this fall; he was certain that for himself it would be better to turn his attention to making butter and raising pork, than to sell his milk at the door for 2¼ and 3¼, 6 months, as he had done.

Further remarks were made by Messrs. Jones, Huse, Cross, and others. After which it was voted without one dissenting voice, that the price of milk be raised to 3 cts. per qt. for 6 months, and 4 for 6 months, to commence Monday, July 10, 1854.

Great harmony of action prevailed through the deliberations. B. Shattuck, *Chairman.*

F. R. French, *Secretary.*

Nashua Gazette.

For the New England Farmer.

PACKING BUTTER.

Mr. Editor:—The communication of N., of Randolph, Vt., reminds me of my neglect to answer a private note. I will tell him what I think, and you can publish it, if you think it worth the while:

Lump butter packed in strong brine, will keep as well as when packed in tubs, in the usual way. But "butter packed in tubs, *solid*, as is *usually* done," does not keep well:

If kept long in brine, it will suffer *materially* in *color* upon the *surface*, and if put in packages of more then one or two tiers of lumps, they would get badly jamed before reaching market, and in either case would have to be *re-worked* before offered for sale, or suffer materially in price. N. would not like to trust commission merchants to "work over" his butter; nor would he send his *dairy maid;* for though the visit might please her, she would prefer to do the work at home in her own *nice, clean sanctum.*

In very cool weather, lump butter may be sent to Boston, when new and sweet; but I do not think would bring more than if solid packed in tubs, deducting the expense of extra freight and

care. For new made, or perfectly sweet butter, solid, packed in tubs, may be made into "lumps," after it reaches market, by the use of butter moulds, without being re-worked. And I think that four-fifths of all the lump butter sold in Boston and other large northern cities, is so made from tub butter.

Groton, July 3, 1854. W.

FEEDING ANIMALS.

THE FOOD MUST SUPPLY THE SALINE AND EARTHY MATTERS CONTAINED IN AND DAILY REJECTED BY THE BODY.

The full-grown animal daily rejects a quantity of saline and earthy matter withdrawn from its wasting tissues; while the growing animal appropriates also every day an additional portion in the formation of its increasing parts. The food must yield all this, or the functions will be imperfectly performed.

1. *The flesh, the blood, and the other fluids* of the body contain much *saline* matter of various kinds—sulphates, muriates, phosphates, and other saline compounds of potash, soda, lime, and magnesia. The dry muscle and blood of the ox leave, when burned, about 4½ per cent. of saline matter or ash. The composition of this saline matter is represented in the following:—

	Blood.	Flesh.
Phosphate of soda, (tribasic,) - -	16,77	45.10
Chloride of sodium, (common salt,) -	59,34	45.94
Chloride of potassium, - - -	0.12	
Sulphate of soda, - - -	3.85	trace.
Phosphate of magnesia, - - -	4.19	
Oxide, with a little phosphate of iron,	8.28	6.84
Sulphate of lime, gypsum, and loss -	1.45	
	100	97,88

All these saline substances have their special functions to perform in the animal economy, and of each of them an undetermined quantity daily escapes from the body in the perspiration, in the urine, or in the solid excretions. This quantity, therefore, must be daily restored by the food.

2. It is interesting to remark how the mineral matter differs in kind in the different parts of the body. Thus, blood contains much soda and little potash—the former in the serum, the latter in the globules—the cartilages much soda and no potash, and the muscles much potash and little soda. So phosphate of lime is the earth of bones, and phosphate of magnesia the earth of the muscles. So also the presence of fluorine characterises the bones and teeth, and that of silica, the horny parts, hairs and feathers of animals—while an abundance of iron distinguishes the blood and the hair.

The distinction now noticed between the blood and the muscle is not brought clearly out by the analysis above given of the comparative composition of the saline matter of each. It is seen more clearly in the following comparison:—

	The mineral matter or ash of ox blood contains, per cent.	of ox flesh contains, per cent.
Common salt, - - -	47 to 51	—
Chloride of potassium, - -	— —	10
Potash, - - - -	7 - 8	36
Soda, - - - -	12 - 14	—
Phosphoric acid - - -	3 - 7	36
Oxide of iron, - - -	7 - 10	1

From the blood, therefore, as a common storehouse, each part obtains, by a kind of selection, the mineral matter which it especially requires.

It has not yet been accurately determined by experiment how much saline matter must necessarily be excreted every day from the body of a healthy man, or in what proportions the different inorganic substances are present in what is excreted; but it is satisfactorily ascertained, that without a certain *sufficient* supply of all of them, the animal will languish and decay, even though carbon and nitrogen, in the form of starch and gluten, be abundantly given to it. It is a wise and beautiful provision of nature, therefore, that plants are so organized as to refuse to grow in a soil from which they cannot readily obtain an adequate supply of soluble inorganic food,—since that saline matter, which ministers first to their own wants, is afterwards surrendered by them to the animals they are destined to feed.

Thus, the dead earth and the living animal are but parts of the same system,—links in the same endless chain of natural existences. The plant is the connecting bond by which they are tied together on the one hand,—the decaying animal matter, which returns to the soil, connects them on the other.

3. *The bones of the animal* are supplied with their mineral matter from the same original source,—the vegetable on which they live. The dried bones of the cow contain 55 per cent. of phosphate of lime with a little phosphate of magnesia, those of the sheep 70, of the horse 67, of the calf 54, and of the pig 52 lbs. of these phosphates in every hundred of dry bone. All this must come from the vegetable food. Of this bone-earth, also, a portion—varying in quantity with the health, the food, and the age of the animal—is every day rejected. The food, therefore, must contain a daily supply, or that which passes off will be taken from the substance of the living bones, and the animal will become feeble.

The importance of this bone-earth will be more apparent if we consider,—*First*, that in animals the bones form not only a very important but a very large part of their bodies. The body of a full-grown man contains 9 to 12 lbs. of clean dry bone, yielding from 6 to 8 lbs. of bone-earth. In the horse and sheep the fresh moist bone has been estimated at one-eighth of the live, or in the sheep to one-fifth of the dead weight, and to one-third of the weight of the flesh. *Second*, that in a growing sheep the increase of bone-earth amounts to about 3 per cent. of the whole increase in the live weight. And—*Third*, that every hundred pounds weight indicates 5 or 6 of phosphate of lime.

It is kindly provided by nature, therefore, that a certain proportion of this ingredient of bones is always associated with the gluten of plants in its various forms,—with the fibrin of animal muscle and with the curd of milk. Hence man, from his mixed food, and animals, from the vegetables on which they live, are enabled, along with the nitrogen they require, to extract also a sufficiency of bone-earth to maintain their bodies in a healthy condition.

THE FOOD MUST SUPPLY THE WASTE OR INCREASE OF FAT IN ANIMALS.

Every one knows that in some animals there is much more fat than in others, but in all a certain portion exists, more or less intermingled with the

muscular and other parts of the body.* This fat is subject to waste, as the muscles are, and therefore must be restored by the food. All the vegetable substances usually cultivated on our farms contain, as we have seen, a notable quantity of fatty matter, which seems to be intended by nature to replace that which disappears naturally from the body.

A full-grown animal, in which the fat may be regarded as in a stationary condition, requires no more fat in its food than is necessary to restore the natural loss. In such animal the quantity of fatty matter found in the excretions is sensibly equal to that which is contained in the food.

But to a growing animal, and especially to one which is *fattening*, the supply of fatty matter in the food must be greater than to one in which no increase of fat takes place. It is indeed held, that, in the absence of oil in the food, an animal may convert a portion of the starch of its food into fat,—may become fat while living upon vegetable food in which no large proportion of fatty matter is know to exist. And it can hardly be doubted, I think, that the organs of the living animal are endowed with this power of forming in a case of emergency—that is, when it does not exist ready formed in the food—as much fatty matter as is necessary to oil the machinery, so to speak, of its body. But the natural source of the fat is the oil contained in the food it eats, and an animal, *if inclined to fatten at all*, will always do so most readily when it lives upon food in which oil or fat bounds.

It does not however follow, because fat abounds in the food, that the animal should become fatter, —since if starch be deficient in the food, the fat containing no nitrogen, may be decomposed and worked up for what may be called the purposes of respiration. This working up of the fat, already existing in the body, is one cause of the rapid emaciation and falling away of fat animals when the usual supply of food is lessened, or for a time altogether withheld. The fat is indeed considered by some as nothing more than a store laid up by nature in a time of plenty to meet the wants of respiration when a season of scarcity arrives,—that a fat animal is like a steam-frigate heavily laden with fuel, which it burns away during its voyage for the purpose of keeping up the steam.

It is by reference to this supposed purpose of the fat of the body, and to the possibility of using it up for the purposes of respiration, that the benefits of repose, of shelter, of moderate warmth, of the absence of light, and even of a state of torpor, in conducing to the more speedy fattening of cattle and sheep, are explained. Exercise causes more frequent respirations, and hence a greater waste of that part of the food which should be laid on in the form of fat. Cold also has the same effect, since more heat must be produced in the interior of the animal—in other words, more frequent respiration must take place, in order to make up for the greater loss of heat by exposure to the external air.

Thus, as was stated at the commencement of the present chapter, a study of the nature and functions of the food of animals throws additional light upon the nature also and final uses of the food of plants. It even teaches us what to look for in the soil—what a fertile soil *must* contain that it may grow nourishing food—what we must add to the soil when chemical analysis fails to detect its actual presence, or when the food it produces is unable to supply all that the animal requires.

* At Port Philip, in the boiling-houses, a Merino sheep of 55 lbs. gives 20 lbs. of tallow, and of all weight above 55 lbs. four-fifths are tallow.

SPECIAL WASTE IN THE PERSPIRATION OF ANIMALS, AND IMPORTANCE OF THIS FUNCTION.

Animals perspire that they may live, and this function is as necessary to a healthy life as either breathing or digestion. The skin, like the lungs, gives off carbonic acid and absorbs oxygen. But it differs from the lungs in giving off a much larger bulk of the former gas than it absorbs of the latter. The quantity of carbonic acid which escapes varies with circumstances. It is sometimes equal to a thirtieth, and sometimes amounts only to a ninetieth part of that which is thrown off from the lungs. But exercise and hard labor increase the evolution of carbon from the skin, as it does from the lungs. In motion, the human body gives off nearly three times as much as when it is at rest; while from a horse, when put to the trot, the carbonic acid of the skin augments as much as an hundred and seventy times. (Gerlach.)

Water is also given off from the skin as from the lungs, and every one knows that fat exudes from its pores and lubricates the surface of the body. The salt taste of the perspiration is an equally familiar proof that a portion, at least, of the saline matter derived from the waste and change of materials in the body escapes through this channel.

Nirtogen also escapes from the skin. The quantity of nitrogen in the food is a third or a fourth greater than that contained in the solid and liquid excretions. (Barral.) This third or fourth, therefore, is supposed to be given off by the organs of perspiration, the lungs and the skin. A cow or a horse is reckoned to exhale by the skin and lungs about 400 grains of nitrogen daily; a man, perhaps, 100; and a sheep or pig 8 grains. (Boussingault.)

The functions of the skin, therefore, are very important; and thus, in the practical feeding of animals, a healthy and clean condition of the skin must contribute not only to healthy growth, but to a profitable employment of vegetable produce in rearing, maintaining, and fattening them.

Johnston's Ag. Chemistry and Geology.

For the New England Farmer.

HORSERADISH.

Mr. Editor:—I saw an inquiry in your paper in relation to the cultivation of horseradish, and can tell the inquirer how it ought to be done. Take a piece of moist meadow land and ridge it up in ridges three feet apart, one way; then take horseradish roots, from one-fourth to three-fourths of an inch in diameter, and cut them into pieces one inch in length, and plant one piece in a place, two feet apart on the top of the ridge, covering them about an inch deep, and cultivate as you do for potatoes. After the severe frosts in the fall, pull the roots and keep off the small fibres, and pack the remainder closely in the cellar and cover with turf to prevent the roots from drying.

Worcester, 1854. B. H. Franklin.

ON MAKING HAY.

Mr. Editor:—As we are about to engage in the process of hay-making, an important business in this latitude, a few words on the subject of curing hay may not be unacceptable.

There is, in my opinion, a very great mistake existing in regard to this matter. It is an old adage, "make hay while the sun shines," and many seem to think the more sun they can get upon their hay the better; here is the mistake to which I allude. I am confident that a large portion of the hay in this country is lost by this process of over-drying in the sun. The influence of the sun is partly that of distillation. It has the power to expel, not only the watery elements contained in plants, but the real life-sustaining substance of the plant itself, which goes to form the fat, flesh, wool and bones of all ruminating animals.

It is asserted by the distiller of plants, that to procure the most oil, they must not be dried in the sun, as it not only lessens the quantity of oil, but also diminishes the flavor.

Now, hay may be exposed to the action of the sun's rays, until there remains little but the woody fibre, and there is no more nourishment in it than there is in so many tons of pine rails. Thus, from one-tenth to four-fifths of the nutritious part of hay is lost in the process of hay-making; in what might be more properly called a process of distillation. I have reason to believe that in the State of Vermont, alone, there was lost during the last season, in this way, more than five hundred thousand dollars worth of hay, which, if it had been wisely retained, might have gone to nourish many flocks and herds. A great part was resolved again into its constituent elements, and passed away in a gaseous form.

For example, we will suppose that Farmer A. cuts ten acres of grass, that would weigh 25 tons green; he reduces that by judicious curing in the sun and cock to 15 tons and puts it under shelter, where, by the continued process of making, it is farther reduced, and when in the highest stage of preservation, the whole quantity of his crop of fragrant hay weighs 11 tons. Farmer B. also cuts from his 10 acres the same quality and quantity of A. But under B's. rigid process of "drying and curing," as he calls it, reduces his 25 tons of grass in the field to eight tons; after housing, it shrinks one ton more. Now for the result.

Farmer A's. mow of hay to the amount of 11 tons, is richly worth $10 ℔ ton	$110
And farmer B's. 7 tons, valued at $8 ℔ ton	56
Leaving farmer A. nett over B	$54

To make this arrangement more plain. In the above estimate, I have valued A.'s crop of hay at $2,00 per ton, or twenty per cent. more than B.'s. We will now subtract that which is of no value from each number of acres mowed. That is:—

A.'s mow	11 tons.	B.'s mow	7 tons.
Woody fibre	3 "	Woody fibre	3 "
Solid nutriment	8 "	Solid nutriment	4 "

We see that here A. has retained, in the curing process, twice as much as B., of the fat and flesh-forming elements; thus you see that the only essential properties contained in the 25 tons of grass may be all extracted in three ways. One process is by steeping in water, which extracts more rapidly than the second, which is by evaporation, or the influence of warm air. The third, and most profitable method for the American farmer, is by dissolving the hay in the *animal distillery*. By this process of decomposing the aliment in the stomach of animals, and of recomposing it in a new form, and thus preparing it for circulation and nutriment, is the *philosopher's stone* of which I am endeavoring to elucidate.

A majority of hay enters the barn quite too dry, that is, too much of the nutritious qualities of the grass are exhausted in the hay field. One may place his hay quite too rapidly into large bodies and quite too green, and suffer loss by so doing. In the mean time, in that hay had been divided and stored in several places a large per cent. of nutriment might have been retained.

When the hay-maker is desirous of stacking or mowing his hay a little too green, he may do so with impunity, by occasionally adding a layer of dry straw or old hay, to absorb the gases which would pass off, if under the influence of the sun. Haying may sometimes be expedited in this way, and to advantage; for stock will eat the straw or old hay with avidity, which has retained the properties of the green hay, in the straw or old hay, though that may only have been of second quality.

Another good method of securing your hay as green as possible, is to provide several places of storage, so that but a few loads may be stored together the same day. The more slowly the process of collecting the hay together, the richer it will be in quality, if cut in proper time. If the hay is underdone it is a good practice to cast it upon an open scaffold, or remain on the load, to sweat over night. All hay underdone should be pressed as tightly as possible in the mow, but if over cured or ripened, the more solid it is pressed the better.

A stack of hay, to be made properly, should be several days going up, for the double purpose of saving the nutritous qualities and giving it time to settle by degress.

Grass should be first wilted, and if no dew or water falls on it, put into cocks, and made into hay by degrees. In the time of mowing, if the grass gums the scythe it requires little or no drying before it enters the barn.

Hay may heat in the mow to a certain extent, and stock will eat it freely. When it is liable to over-heat, it must be overhauled, or a square cut out of the centre, which will check the heat by coming in direct contact with the air. A chimney is sometimes formed by setting bundles of straw on one end, one on top of the other, commencing near the bottom of the stack or mow, and ending near the top. Hay, as before stated, when over dried, will never become solid in the mow, and compact hay will go much farther, pound for pound, than hay loose in bulk.

Every stack or mow, divided by a hay-knife, and first out fed one part, will spend much better, when fed in this fresh state, than that which constantly exposes a large surface to the action of the air.

S. W. Jewett.

Middlebury, Vt., July 5, 1854.

Remarks.—We regret that friend Jewett had not sent us this article a few weeks earlier, that

our hay-makers might have had the full benefit of this season. By reference to the remarks which we have made on this subject he will see that we believe in the doctrines he has laid down in regard to hay-making—indeed, a good portion of our hay is put into the barn on the same day that it is cut, and we have not had a pound of musty hay for years. This is really a matter of great importance to the farmer, and he ought to give it more attention.

For the New England Farmer.

THE WITCH HAZEL TEST.

FRIEND BROWN :—Noticing an inquiry by R. H. H. in your March No., "What dependence can be placed on the use of witch hazel for determining water courses," &c., and some editorial remarks, I am induced to give you some of my experience. Some 55 years ago, my father, after erecti g a new set of buildings, wished a well to accommodate the barn, which was on pine plain land. A man in the adjoining town of Harvard, professed ability to designate the situation and depth of springs by means of hazel rods or whale-bone. He was sent for, and came; I watched his operations, and found they would turn and point to the spring, and by going round he would estimate the depth. He said there was no spring nearer than 6 rods to the barn, where he decided water might be found 12 feet from the surface, which he would warrant for $2. It was paid. I took the hazel rods he used (he had the whalebone, the end impregnated I think he said with quicksilver, and a green hazel say 15 inches long, split half way) and found they would work in my hands as well as his, either of them, but not in another person's present (say 6 or 8 of the family,) I was surprised to see and feel their powerful twisting. The man said "There is not one in 500, in whose hands they will work. You ought to give yourself wholly to this business, it is so rare a favor, and would be an immense saving if generally known and available." Such was my father's confidence that he started two teams to draw stone, and put two men digging early next morning, and strange to tell, by 11 o'clock, they got water, and made grog and drank in the well—commenced stoning and the water rose more than half way to the top, as fast as they could lay the stone. I may add it was a never failing spring.

Another more striking case came to my knowledge in East Williamstown, Vermont. A gentleman with whom I stopped some time, said he had often found springs in that way in many parts of the State. He had occasion for a well in a lot of his own. The rods indicated a powerful spring 15 feet deep, it was in a hard pan, very hard. He dug about 15 feet, and found no water. Got his rods and went down; the rods strikingly indicated the spring to be in the centre, at the very point they had reached. He took the pick-axe struck in, and raised a lump. He saw the water running in a course like a tube, some ¾ of an inch in diameter. He took a small piece of moss, and with his finger pressed it into the hole closely, so that the water could not run off, and it boiled up rapidly and steadily, till the well ran over, which it has continued to do ever since! I saw this powerful spring, and the large grass growing, irrigated by its overflowing.

Why the witch hazel, and no other kind of wood, should be attracted by running water,—in some hands and not in others, is a problem that remains to be solved; but that such is the fact, I have not doubted for *half a century*. BENJAMIN WILLARD.

Lancaster, 1854.

For the New England Farmer.

MULCHING WITH WOOD SHAVINGS.

MR. EDITOR :—Never having seen anything written upon the subject of mulching fruit trees with wood shavings, I venture to suggest to such of your readers as have young orchards, the propriety of trying the experiment.

Having had but two years experience, I am not prepared to say they are better than any other material, but I am free to confess they have thus far surpassed anything I have ever tried.

Having a few fruit trees set on a barren knoll, which, although they had yearly received a liberal mulching with grass, assumed the appearance of premature decay, and in fact had already taken the down hill course, I resolved to try the effect of mulching with shavings. Around each tree I put two barrels of shavings, within a circle of eight feet in diameter, leaving a small space between the shavings and the tree to be filled with fresh earth. To keep the shavings snug, a thin coat of grass was spread over the whole. To fully test the experiment, a part of the trees were treated the same as they formerly had been. After the lapse of one year, (which was last year,) those trees mulched with shavings put out vigorous shoots, and by their dark green foliage could be easily distinguished from the others at a great distance. So well satisfied was I with the result, I last year used upwards of a hundred barrels which have proved equally as beneficial to the trees, while the first I mulched continue to thrive even beyond my expectations.

If any of your readers have used the above named material, I hope they will communicate the fact, and state with what success.

I have found brush from evergreen trees to be an excellent material for mulching young orchards. E. HERSEY.

Hingham, 1854.

For the New England Farmer.

THE OAK PRUNER.

MR. BROWN :—The oak pruner *Stenocorus* (*Elaphidion*) *putator* has again made its appearance in great numbers; I have seen some oaks as badly used as they were two years ago, when many were afraid that our oaks were to be totally destroyed. Some of our oaks present a ragged appearance, with numerous dead limbs hanging, that have been sawed off, but not blown down. They work other trees,—such as apple, walnut, maple, &c.—to some extent. The question may be asked, "What can be done to prevent the ravages of these insects?" Dr. Harris suggests—and a wise suggestion it is—that the branches be gathered up and burned, thereby destroying the grub. Let us all act on this advice, and next year we shall not be so much troubled with this nuisance.

J. F. C. H

Newton Centre, July 21st, 1854.

INFLUENCE OF SOILS ON THE COLOR OF FLOWERS.

It is not, perhaps, generally known as it deserves to be that the color of flowers depends, to a considerable extent, upon the character of the soil on which they grow. The splendid and brilliant yellow of the *Hypoxis* is only seen on close and compact clays, while the *Lupine* is successfully grown only on soils of a sandy or arenaceous description. The marl indicator, or *veronica*, grows only on calcareous lands, or those having a large percentum of lime in their composition. The *talinum*, in Pennsylvania, is never found except in magnesian rocks, where it flourishes with great vigor and luxuriance, though wholly incapable of cultivation in any locality to which magnesia is not common, or in which it does not exist to a greater or less extent. Among the almost countless varieties of plants which beautify the earth, some only vegetate in *brine*—as the marine varieties found on the margin of the sea; others, on the contrary, are aerial, and like the mistletoe, seem to derive their sole nutriment from the air, while there are others again which flourish only in fresh water, and which are incapable of successful culture in any other situation, like the water-lily, and the wild rice of the West.

There are plants known to the botanist, which are confined exclusively to the soil, and which never rise above the surface—others that can be made to germinate only in stones, and to which common air and moisture are instantaneous death! Such facts appear astonishing, yet the botanist recognizes in them but another manifestation of that Divine Wisdom which regulates the phenomena of life, and scatters beauty and loveliness equally over all the earth. In the cultivation of flowers, therefore, we should endeavor to ascertain the circumstances most favorable to their growth and vigor. The soil has, as we have shown, a strongly modifying and characterizing influence in this department, and its action should be well understood to ensure perfect success.

TREES ON FARMS.

Another point of some importance, as connected with farming, is that of scattering trees in the hedges and open fields. On lands devoted exclusively to pasturing, such as are needed for their shade, and scattered generally over a country, they add much to its beauty and picturesqueness. Especially is this the case in this country, where, owing to a damp atmosphere, the falling leaves soon decay and mingle with the soil, instead of becoming dry and littering the land and highways, as with us. Englishmen are justly proud of their old, spreading trees. Landlords often enter it in their leases that no trees shall be cut down. Still in those parts of the empire, where the farming is best, the trees are going. You now see but few in the wheat-fields of the lowlands of Scotland, for instance; and very few in the fields of such farmers as Mr. Pusey and Mr. Mechi. These men do not sacrifice their love for the beautiful in nature. They cultivate trees in their proper places. They are the last men, I suppose, who would leave a country naked and bald; but trees have no longer a place among their wheat and barley.

In our land of scorching summers, let there be trees. It would be barbarous to root them out from our cultivated fields, where they are injurious, without, at the same time, securing their growth in other places, where they are not only harmless but pleasing to the eye, conducive to health, and often more profitable than anything else the soil will grow. Let them study our pasture lands, as gems of beauty and of comfort. Our cattle need the means of coolness in summer, and warmth in winter. Only by attending to this matter shall we ever approach that excellence in this department, which our British brethren have attained. More depends upon cherishing the trees we have, than upon new. Let trees line our highways. Their roots and tops will be a little injurious to the bordering lands, but not much; the weary traveller and his beast may rest under their shade, our children shall delight the pallet from their produce; and our grandchildren build their houses with the timber they grow. If our road-sides were adorned by a tree once in five rods, the rows alternating with each other, as far as convenient, the roads, with the exception of here and there a wet place, which might be intermitted if thought desirable, would not be a whit the worse, and in many soils be far better. If one-fourth of these are rock maple, they might furnish sugar for the population, whenever it should be cheaper to manufacture than to buy; and no one can tell what future times may be. Rural dwellings should be adorned by shade trees. An *American* farm-house, under a sun shining intensely at least two hundred and fifty days in a year, is a very different thing from an English country residence, where the sun scarcely shines as many hours, and that mainly morning an d evening. Yet the Englishman takes care to provide his residence with trees; the breezes that enter his windows come purified by a previous passage through dense foliage; but too often the American neglects to surround himself with these *conservators* of health and comfort; so that he and his family breathe air, not only scorching hot, but often surcharged with carbon and ammonia. An American farm-house, without trees at a little distance, (not so near as to produce injurious dampness,) is out of all taste, is unfavorable to health and comfort, and in utter disregard of the great law of adaptation to circumstances of situation and climate.—*Albany Cultivator.*

For the New England Farmer.

TO PRESERVE EGGS.

Take a suitable tub or pot, and put in a layer of salt; then set in a layer of eggs small end down, cover them with salt one inch thick; then another layer of eggs, and so continue. Eggs will keep for twelve months if kept in a dry cool place free from frost. D. S.

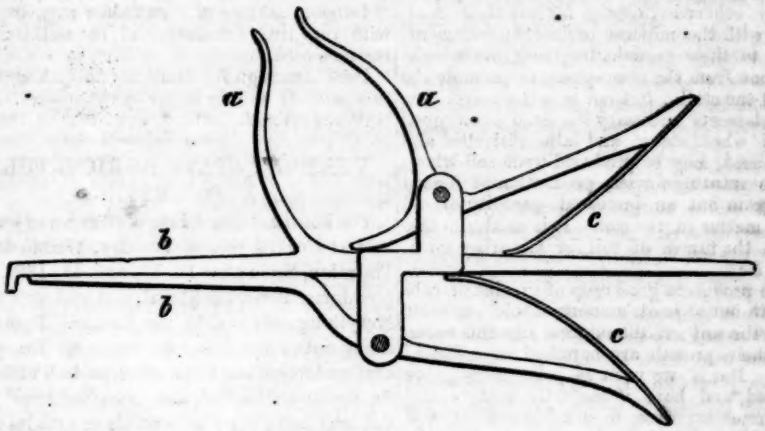
Jaffrey, June 30, 1854.

COW MILKER'S ASSISTANT.

This little implement will prevent a good deal of *swearing*. So you see it has a moral bearing. Notwithstanding the practice is wicked, vulgar, and ungentlemanly, a good many persons who milk cows, swear worse than "our army did in Flanders," when *provoked* thereto, by a rousing switch in the face with a vigorous cow's tail. It *does* rather disturb one's equanimity, especially if the animal has just risen from her bed, where the tail has been recumbent in what certainly *will give* color and fragrance to the rose; but we should not be willing to jeopardize our veracity by saying that it is either of them in its present form.

Letters *a*, *a*, show the part attached to the large cord on the leg, just at the point of the hock: *b*, *b*, the jaw (now closed) into which the hair of the tail is inserted, and *c*, *c*, the springs by which the other parts are opened.

We have used it, and find that it answers the



purpose for which it was intended most admirably. It is made of brass, is perfectly simple, and will be wanted by all who have not razeed their cows' tails.

The Hon. John M. Ware, of Seabrook, N. H., is the inventor of the implement, and, we understand, has secured a patent upon it.

AN OHIO NOVELTY.

Up in Bryan, Williams county, Ohio—in the town—there is a novelty which is rarely to be exceeded in curiosity anywhere. All over the village the people are favored with natural fountains. The item thus describes the novelty:

It is supposed that there is an underground lake, at the depth of some forty or fifty feet, of considerable extent, as water has been found when bored for, for several miles around. This is also apparent from the fact, that every new well that is bored affects the strength of others in its immediate vicinity, until its stream is elevated by means of a stock to an equal height. The amount of water discharged by these fountains, however, is not proportionate or equal—they vary considerably in different parts of the town, the strongest ones being generally east of Main street. The water can be raised in proportion to the stream forced up. There are several that fill a two inch augur hole at the height of eight feet above the surface of the earth, and the others issue a somewhat smaller stream to the height of twelve or fifteen feet. Some of the larger ones frequently throw up fish, and we are told that there is a very strong fountain about a mile east of this place, in which fish of a blackish color, of the length of three inches, have been seen.

The work of procuring water is simple and easy. There are seldom any stones met with, to obstruct the course of the auger, and but one or two days are required usually to sink a well, of five or six inches in circumferance, the necessary depth. Water is found at an average depth of 42 feet. The augur passes through a loose sand until it strikes what is called "a hard pan," a bed of solid blue clay, of from two to three feet in thickness, and of such a natare that it requires a drill to penetrate it. Immediately below this "hard pan" lies the water embedded, it is supposed in quicksand, as for some days, in some instances weeks, large quantities of fine white sand are ejected by the water, but the stream finally becomes pure and clear and no sand is afterwards seen.

No season or state of the water has any effect upon these living fountains—nor drought nor flood can change their currents—they are ever the same—their source is inexhaustible, and therefore they cannot fail.

Splendid Plant.—There is now in full bloom, in the Liverpool Botanic garden, a beautiful specimen of the *Wistaria sinensis*. This splendid plant, which is considered the finest specimen in Britain, covers a space of wall amounting to nearly nine hundred square feet. At the present time there are about six thousand *racemes* or bunches of flowers on it, each bunch bearing on an aver-

age about fifty-five flowers, so that it bears on the whole about 330,000 individual flowers. In addition to the pleasure given to the eye, this plant yields a most grateful perfume.

For the New England Farmer.

MATURITY OF PLANTS.

BY A. G. COMINGS.

The life and maturity of the various plants and vegetables which are cultivated among us, is a subject upon which a little more study and inquiry may be profitable.

Plants which are growing in a soil which contains no carbon, either in the form of vegetable matter, or otherwise, cannot mature their seed. Supplied with the mineral or inorganic elements necessary to their growtht they may draw sufficient carbon from the atmosphere to promote the growth of the stalk; but not to mature seed. The organic elements necessary to produce a good growth of wheat straw, and also shrivelled and worthless seed, may be produced upon soil where nothing is wanting for the production of a good crop of grain but an increased quantity of old vegetable matter in the soil. It is so also in this respect to the fitness of soil for maturing corn, rye, oats, &c.

We can produce a good crop of turnips or cabbages, with but a small amount of old vegetable matter in the soil; if the mineral elements necessary to their growth are supplied in sufficient quantity. But if we want to raise cabbage or turnip seed, and have it perfectly mature and good, we must set them in a soil which is well supplied with carbon, in such a state as to feed the roots.

Those plants which produce seed the first year of their growth, and then die, draw away the substance of the root to mature the seed. Their death is therefore consequent upon this exhaustion. Those which produce seed the second year of their growth, and then die, are exhausted by producing the seed. This is the case with clover; and yet farmers find fault with clover because "it so soon runs out." But let the elements necessary to its growth be in the soil, and let it be mowed every year when just in blossom, and it will live many years, and the roots become very large. When the nature and value of clover comes to be understood, farmers will see it their interest to cultivate it.

Seed-producing crops always exhaust the soil greatly of that which in old soils is most wanting. If we would continue to raise much grain, of any kind, and not reduce the soil to utter barrenness, we cannot too soon consider the importance of plowing in green crops.

Some plants do not come to maturity, to produce seed, for several years. Among these, I believe we class potatoes. Raised from seed they must generally have several years of growth before they will produce seed. Before they become mature, they feed carbon and other elements more largely from the atmosphere, and produce larger tubers. They do not generally ripen early; and they appropriate more carbon in the form of an atmospheric gas. After they become seed-producing kinds, they pour less downward into the tubers, and consequently an excess of gaseous food is more injurious to them, and they are more liable to disease. Roots and seeds do not commonly grow at the same time. In the period before maturity, every plant feeds more from the atmosphere; and at maturity more from the soil. This decides where it must draw its nourishment and support from, and what is, at different periods of growth, the current of its juices.

Nobody expects to see potato-blight in early summer, before the vines have come near to maturity; but why not? Simply because such a thing has never yet been known. But, there is, doubtless, a reason for all this.

The growth of grass for a few days after blossoming, exhausts the soil more than many days of growth does before the time of blossoming.

Large quantities of corn fodder may be raised with very little exhaustion of the soil, if it matures no seed.

Here is enough for somebody to talk about until somebody will do better by the subject.

Mason, N. H.

VERMONT STATE AGRICULTURAL SOCIETY.

The Fourth Annual Fair of this Society will be held at *Brattleboro'*, on Tuesday, Wednesday and Thursday, September 12, 13, and 14, 1854. The premiums offered are liberal, and embrace nearly everything produced by the farmer. Persons residing out of the State, may compete for premiums on foreign stock, plowing, and all articles in the floral, mechanics', and manufacturers' halls; and may make entry of animals or articles of any class, for exhibition merely, which will be admitted within the enclosure for that purpose, if deemed worthy by the Executive Board, or its agent at the Secretary's office.

To those who have not visited the region, there will be an additional adducement, to witness the romantic scenery in and about Brattleboro'—the rich intervales of the Connecticut and the grand mountain scenery on the New Hampshire side. On more than one public occasion we have shared the hospitality of the people, and feel safe in saying that the Vermonters will only act out their generous impulses, when they do everything needful to make their visitors comfortable and happy during their stay among them.

The officers of the Society are as follows:—

Hon. Frederick Holbrook, of Brattleboro', President. H. B. Stacy, of Burlington, E. Hammond, Middlebury, J. W. Colburn, Springfield, and E. B. Chase, of Lyndon, Vice Presidents. J. A. Beckwith, Middlebury, Cor. Secretary; Charles Cummings, Brattleboro', Rec. Secretary; Edward Seymour, Vergennes, Treasurer, and E. P. Walton, Montpelier, Auditor. The Directors are Messrs. B. B. Newton, Henry Keyes, J. M. Vail, George T. Hodges, Portus Baxter, John Gregory, A. L. Bingham, John Howe, O. Wood, and George Campbell. Lyman P. White, Superintendent at the Fair.

All the Railroad companies in Vermont will

carry animals and articles for exhibitions to or from the Fair, free of charge, and visitors each way, at half fare. It is also expected that similar arrangements will be made with railroad companies out of Vermont.

For the New England Farmer.

FARMERS' CLUBS.

It is an old and long harped subject, we are very well aware, and if they had been organized, as the benefit of farmers require, all over the land, in every town, every school district, then they would not furnish so irksome a subject for so many readers as we from the very lethargy of the people may suppose they do now.

We have urged the establishment of these institutions both in public and private until we have very little hope that what we have to say will be read. But once more, dear reader, we ask your attention. We have a *new* story to-day, and it may interest you. At any rate, we took courage as it was told to us, and have felt refreshed by its prospective influence ever since.

In the town of Sunderland, Franklin County, a Farmers' Club was formed in January, 1853. There were only twenty-four individuals associated in its first formation. But what then? If there had been only three, those would have found a living benefit from so associating, and their number, like the annual circles on the oak, would have increased, until the shadow of their good work would have spread far.

Fully to illustrate the objects of this club, and to show what results may be anticipated from its labors, we give, as a friend has given us, the following articles from its constitution.

"Art. 2. The object of this club shall be, the circulation of general intelligence and practical instruction in all branches of Agriculture, Horticulture and Floriculture.

First, by the establishment of discussions, lectures, exhibitions, experiments and other means for the general circulation of knowledge on subjects embraced by the club.

Second, by procuring the most rare and valuable kinds of seeds, scions, plants, shrubs and trees.

Third, by the establishment of a correspondence and exchange with other bodies interested in the same object.

Fourth, by planting shade trees on all the avenues of the town."

Now, we have no doubt but this Sunderland is destined to be one of the most beautifully attractive places in our country, if art is called into action, as we may suppose it will be, through the influence of this club. The intelligence of her sons, too, if they carry out their broad plan of investigation and improvements, will more than keep pace with the progress of the age, and beautiful results both in mind and matter will long be found there, and will go out from them to give a richer tone to improvement in their own and other places.

It gives us pleasure to be able to say the number of members of this club is increasing,—that an agricultural library, if not already formed, is in contemplation, and that every indication is given of its permanent success.

If every town would adopt the course adopted by Sunderland, it could not be long before our country would become, what nature has designed it to be, a garden of fertility and exquisite beauty. We can readily infer this, when we see what individuals have accomplished in the renovation and improvements of their own premises. And what individuals have accomplished in a less but brilliant way, the united efforts of a community can certainly carry out with less labor and far greater success by their united operation.

One object of the association is, to plant shade trees until all the streets in that venerable town become avenues of cool and refreshing shades. To the slothful, this may look like a bold and hazardous enterprise—yet we think that three years will see it accomplished, and the trees all flourishing in healthful vigor, the pride of the inhabitants, and the comfort and admiration of all travellers. What a picture! A town noted for thrift, whose streets are all shady avenues! It will be an advance of many steps beyond what the progress of the age appears to indicate. It will be giving new beauty to a bright gem in the diadem of earth.

But, supposing the adjoining towns should for one or two seasons adopt the same course as is being pursued in Sunderland. Suppose the same spirit should operate through Franklin County, would not Franklin County be thought the brightest jewel that glittered on the craggy brow of old Massachusetts?

Let it be a prime consideration in the economy of our State, to adopt this system of improvement, and how soon all our thoroughfares would become inviting shades, and Massachusetts would acquire a renown in her rural pursuits which would give her a higher rank than she now in her glory possesses in the national sisterhood, and which command for her unabating respect through the nations of the earth.

May we not hope in view of this matter, that when the bountiful harvests which the earth promises as the reward of persevering labor are all gathered, and the season of unbroken care and unremitted labor has passed, and the leisure they demand has come to relieve the wearied mind and toilworn body, that many, very many towns in our State, will establish similar institutions and pursue the same laudable objects until the triumph they promise is fully attained.

Yours, truly,

Elmwood, June 8, 1854. W. B.

REMEDY FOR SMUT IN WHEAT.

Messrs. Editors:—I see a writer in the *Country Gentleman* asks for a preventive for smut or fungus in wheat. This, together with the frequent inquiries made by our northern friends, in the wheat growing regions, induces me to give you one that is simple, cheap, never failing. It is simply a soak in water in which blue vitriol has been dissolved, in the following proportions: For each 4 or 5 bushels wheat, dissolve 1 lb. blue vitriol in water, sufficient to cover and properly soak the wheat; let it remain in this soak 20 to 24 hours—sow immediately after taken out of the soak. Pursue this annually and properly, and my word for it, you will never more hear complaint of smut in wheat, however badly the seed from which it

was grown may have been mixed with smut. This is the discovery (at least in this State,) of an old and successful planter and wheat grower of this district; and has been tested many years, always successfully, by hundreds, yea, thousands. Some say this soak also effectually eradicates chess, in a few years, but of this I am not fully satisfied. But when properly applied and used, that it is a sure and effectual remedy for smut, there is not the shadow of a doubt.

If new, or untried, with you, get a single farmer to make the experiment. He, you, or the country generally, will never regret it.—*R. Stewart, in Country Gentleman.*

A SHOWER.

BY REV. RALPH HOYT, A. M.

In the valley that I know,—
Happy scene!
There are meadows sloping low,
There the fairest flowers blow,
And the brightest waters flow
All serene;
But the sweetest thing to see,
If you ask the dripping tree,
Or the harvest-hoping swain,
Is the rain.

Ah, the dwellers of the town,
How they sigh,
How ungratefully they frown,
When the cloud-king shakes his crown,
And the pearls come pouring down
From the sky!
They descry no charm at all
Where the sparkling jewels fall,
And each moment of the shower
Seems an hour.

Yet there's something very sweet
In the sight,
When the crystal currents meet,
In the dry and dusty street,
And they wrestle with the heat,
In their might!
While they seem to hold a talk
With the stones along the walk,
And remind them of the rule,
To "keep cool!"

But in that quiet dell,
Ever fair,
Still the Lord doeth all things well,
When his clouds with blessings swell
And they break a brimming shell
On the air;
There the shower hath its charms,
Sweet and welcome to the farms,
As they listen to its voice,
And rejoice!

For the New England Farmer.

LIGHTNING RODS.

Mr. Brown:—I saw an inquiry in last week's *Farmer*, whether lightning rods are a "safe and certain protection from the fluid," and also, if persons or buildings are ever injured, or life destroyed, when they are properly put up? In answer to the first inquiry, I would say that "Lightning Rods," when properly put up, *are* safe protectors. They should be made of iron or copper (iron is the less expensive, and answers every purpose;) they should be at least one-half inch in diameter, three-fourths would be better, and if made of more than one piece, should be closely connected at the joints by firmly *screwing* one section into the other, because where they are *linked* together, as many rods are, they are liable to rust between the joints and break the connection—for the rust is not a good conductor of the electric fluid—and from this cause the lightning will sometimes fly off from rods constructed in this manner. To put them up is the next operation; the rod should terminate at the bottom in *moist* earth, in a well or cistern of water if convenient. The rods should be fastened to the building, once in four or five feet by staples of iron or brackets made of wood, but the rod, *at the fastening points, should always be guarded by a short glass tube;* many people use necks of bottles broken off and pushed on to the rod before the operation of putting up is commenced. The rods should extend upwards to a distance of four or five feet above the object to be protected, and should be made pointed and pronged at the top, and it is well to have them tipped with silver. On large buildings, more than one is needed; they should not be placed more than thirty feet apart at the most. There is a lightning rod patented and manufactured by Mr. Spratt, of Cincinnati, Ohio, which is the best and safest rod I have ever seen, and it is not expensive, as it can be put up in most any part of New England for 15 or 16 cents per foot, complete. In answer to the second inquiry, I would say that I never knew a building protected in the above manner injured by lightning; but a rod badly constructed, and badly put up, is worse than none.

South Deerfield, N. H. Brad.

For the New England Farmer.

HOEING.

As June is the month for weeds and hoeing, perhaps a few hints respecting them, at this time, may not be amiss. All agree that it is necessary to destroy the weeds among the corn and potatoes in order to insure good crops: one hoes merely to kill weeds, while another believes that the growth of his corn is promoted by hoeing the earth up pyramid like around the young stocks; one is very particular to dig up every weed and shape the hill workman-like, believing in the old adage, that once well hoed is twice hoed; another hoes his corn three times, because his father, uncle, or grandfather, or somebody else, did the same, and invariably had good crops. Now the truth is, it is not always necessary to hoe the same piece of ground three times. While it would be economy to hoe others five times.

I hoe merely to destroy weeds, without making much hill,—corn without hills—like the child without crutches—learns to stand, and receives more benefit from every shower than when hilled.

Many finish their hoeing in June, in order to be ready for haying, but it is better to cut the earliest hay this month and defer the last hoeing a week or two, for the reason that the later you hoe the less weeds will mature in your field. For instance you have a weedy piece of ground—you hoe it three times, completing it the last of this month—July brings on a luxuriant crop of weeds—dry August succeeds, and your field contains but sufficient moisture for your corn crop—and behold, you have a crop of weeds with your corn which requires as much of the same element for

support—the consequence is, both partake and both suffer. Your corn-leaves are rolled up like so many segars, and instead of a full crop of corn you are liable to receive only an apology for one.

Stowe, June 1, 1854. H. F.

WHAT KIND OF FARMING?

Henry F. French, Esq.,—Dear Sir:—You will certainly pardon me for introducing myself to you in this manner; but sir, after having read many articles from your pen, published in the *New England Farmer*, I believe you are capable (if you will) of giving me just such advice as I most need. I notice an article in the *Farmer* for June, with your name attached, headed, "*Stick to the Farm.*" Now, sir, my object in writing this, is to inquire what kind of a farm, in your opinion, will be for the next 10 years the most profitable? I mean to take everything into consideration, the cost of labor as well as the price of different kinds of farm produce, and to farm it in New England.

What I mean by inquiring what kind of a farm, &c., is whether there is the most money to be made on a grass farm, or both combined, or whether it is best to improve but a little land, devoted wholly to raising vegetables for marketing. In case you decide in favor of a grass farm, please tell me what is the most profitable stock to stock said farm with? Whether it would be best to select a dairy farm and manufacture butter and cheese for the market, or would it best to stock with young stock, or sheep, or both combined, and turn off as much beef or mutton or both as may be? * * *

I am a young man, and have had but little experience in farming; hence I am desirous of obtaining the advice of the experienced.

Please answer soon.

Yours truly, J. D.

June 9, 1854.

Exeter, N. H., June 17, 1854.

My Dear Sir:—I wish it were in my power to afford you the assistance you ask, in your letter of the 9th inst., for I know by experience, the difficulties which beset every thoughtful man, at various critical points on his life-journey, when important steps must be taken, and the path is not plain before him. As I do not know the extent of your pecuniary means, or your habits or condition in life, were I as wise as Solomon, it would be impossible for me to do more than to suggest some general views as to the advantages and disadvantages of the different kinds of farming. Taking it for granted, that you are married or soon will be, to a well educated, industrious New England girl, whose comfort and taste you will always consult, and who will be ever ready to do more than you desire, for the promotion of your interests, and that you have *some* means of purchasing a farm, and are determined to remain in New England, let us consider first what are the objects to be attained, and then how to attain them. Money is always a *means*, and not an end, and you probably would not consider it a very desirable speculation *to die rich*, at the end of five years, as so many of the most fortunate adventurers to California have done. The advantages of good society, and good schools, go far to compensate us for the want of the fertile lands and golden streams of the far West, and no amount of wheat or corn or gold can compensate one child for the want of a good education or an upright heart.

A man of good education, as your letter shows you to be, would find his own happiness and that of his family essentially promoted, by living in or near some considerable town or village, where they would be within convenient reach, not only of neighbors, and schools, and churches, but of the railroads and telegraph, and of lyceums and concerts and libraries. To be sure, these things are not money, but they are money's *worth*, which is all that wealth is valuable for.

Now a sheep or stock farm must necessarily be extensive, and of course, be located where land is cheap. For such a farm you need large pastures, and six or eight dollars an acre is as much as you can afford to pay for it. Again, to raise animals you must feed large quantities of hay, and generally, neat cattle will, at three years old, have consumed more hay at eight dollars a ton, than they are worth. For a sheep or stock farm, you must generally go into thinly settled regions, where the pastures are new and rich, and where the market value of hay is low.

If you are willing to waive the advantages, to which I have alluded, the inducements for selecting such farms are at present very strong. They require less labor to manage them, than any others, and the prospect is, that their products will remain at high prices. I do not live in a sheep growing district, and have very little knowledge of this branch of husbandry, and so the less I say of it, perhaps, the better.

In the lower part of New Hampshire, and much of Massachusetts, I consider hay and apples the most profitable crops we can raise, but in order to raise hay we must have manure, and where this cannot be bought it must be made, and to make it, we must keep stock of some kind. My notion of the matter is, that one must use considerable Yankee shrewdness to manage a farm profitably, in this region. For myself, at present, I should, if I wanted a farm, look for the best one I could afford to buy, near a railroad, within thirty miles of Boston or some other good market, with a good tract of low meadow, which might be reclaimed into mowing, with the upland tolerably free of stones, with wood enough for use and ornament, with apple trees already grown, which I should graft to suit myself, with water running through it, for my cattle to drink, for my children to play by, and to bring into my buildings by aqueducts, or hydraulic rams. I should have the idea of keeping about twenty cows, or as many as

I could feed without going off the farm for anything, a span of heavy horses, and a yoke or two of oxen when I chose, keeping myself ready to buy or sell, according to circumstances. To relieve my family of labor in the house, I would generally sell the milk for the market, realizing nearly fifty dollars each from my cows, for the year, at the present prices of milk, at the door. If I had plenty of help in the house, I would make butter, as being more profitable, and would, by the help of the milk, keep about as many swine as cows. I should look sharply into the swamps for a place for cranberries, which afford as profitable a crop as any other.

I would not have a large or stylish house, nor would I feel obliged to ride to church in a carriage worth two hundred dollars, when I preferred walking, because my neighbor Jones did, or to furnish a parlor elegantly with Victoria curtains, or Prince Albert carpets, and keep it shut up, because I was afraid of what Mrs. Grundy would say.

I think we New Englanders are more extravagant in our dwellings, and carriages, and furniture, than any other people on earth.

Furthermore, I should keep my eye on the market, and when I thought proper, I should put in an extra acre of early potatoes, or perhaps an assortment of market vegetables. I should attend the cattle markets, and buy and sell cattle to keep my stock good. When hay and cattle were both at extravagant prices, as at present in this neighborhood, I should take the liberty without asking permission of the town authorities, to sell off the most of my hay and stock, and wait quietly a year or two the fall of the market, in the meantime trying a few scientific experiments with guano and super-phosphates, until I should have manure again of home manufacture.

The Eastern part of Massachusetts is full of such farms as I have described, and I know of no people in the world whose life seems to be nearer to the true idea of comfort and independence than those who occupy them. They work hard but they labor with the spirit and courage of freemen.

They have no masters to drive them, either with the lash, or the fear of losing their offices. Such days as this—the anniversary of the battle of Bunker Hill—inspire them anew with thankfulness for the blessings of freedom.

They are not rich, but they know not poverty, and no wealth elsewhere can purchase the security, the civil and religious liberty, the education of intellect, of heart and of taste, enjoyed by the farmers of New England.

With much respect, HENRY F. FRENCH.

A NEW USE FOR COLLODION.—Cotton powder, dissolved in ether, forms a varnish which sticks fast, dries quickly, is impermeable to water and impenetrable to air; it is called collodion, and is much used in surgical cases. A gardener has just discovered that it may be made of vast utility in producing plants and shrubs from cuttings. On making the cutting, the varnish is applied to the part cut, which immediately becomes closed, or, so to speak, healed. The cutting is then planted in the ordinary way. Out of twenty-six cuttings of hot-house plants to which collodion was applied, twenty-three struck root, whereas out of the same number to which it was not applied, only twelve succeeded. With plants kept in greenhouses, and those in the open air, even more satisfactory results have been obtained. The collodion may also be most advantageously employed in grafting.

For the New England Farmer.

CLIMATE IN CANADA WEST.

FRIEND BROWN:—Many people have an idea that Canada is a *frigid region*, lying somewhere north of *civilization*, where

"Winter reigns tremendous o'er the conquered year,"

and to mention the name almost makes them draw closer to the fire. A little study and reflection will satisfy any one that this is incorrect. True, at Montreal and Quebec, and in a large part of Canada East, the winters are long and the cold is severe, but the best part of the Province, containing nearly all the inhabited part of Canada West, lies south of the latitude of Montreal, and directly west of the State of New York. The climate and productions are similar to those of that State.

It is to be hoped that our geographers will, in future, devote more than *half a page* to the history and description of this growing province.

My intention, when I commenced this article, was to give the state of the weather for the last six months at this place, showing the extremes of temperature, and also the mean, based upon actual observation. My residence is in Prince Edward County, in lat. 44° north, about a degree and a half north of Boston, and on the meridian of Washington. The climate is very changeable, often varying from 20° to 40° in twenty-four hours. In one instance, last winter, the mercury fell 36° in twelve hours.

By reference to my record of the weather in which the height of the mercury at 6 o'clock, A. M., and at 1 and 6 P. M., is daily noted, I find the

Mean temperature of the 12 Mo.,			1853,	was	24.40°;
"	"	"	1 "	1854,	"	21.61°;
"	"	"	2 "	"	"	19.53°;
"	"	"	3 "	"	"	30.73°;
"	"	"	4 "	"	"	40.53°;
"	"	"	5 "	"	"	56.70°;

In the 12th month the range of the mercury was from 45° above to 11° below zero.

In the 1st month the range was from	46	above to	13	below.
" 2d	"	"	41	"	10	"
" 3d	"	"	53	"	9	above.
" 4th	"	"	66	"	22	"
" 5th	"	"	76	"	29	"

Though 13° below zero was the coldest at *this* place, yet it was said to be 20° below in some localities in this vicinity. Snow seldom falls deep here, though there is much more in counties north of this. Perhaps our proximity to the lake, has a tendency to diminish the depth of snow. Last winter I measured the depth at the close of each storm, and found the total 5½ feet, yet it was not

more than a foot deep at any one time, and most of the winter not more than half a foot.

Sleighing was good about ten weeks,—a longer time than usual. Robins and sparrows appeared here the 13th of 3d month, but in a few days the weather became colder, and they were obliged to retreat to the forests for shelter until near the end of the month.

As usual, in 4th month, the weather was very changeable. Thunder showers and snow squalls, warm days and frosty nights, visited us. The storm which killed the birds in the vicinity of Boston, mentioned in the last monthly *Farmer*, did not reach us, yet it was cloudy, and a cold N. E. wind blew most of the time from the 14th to the 17th. We had a severe snow storm the 27th, but warm weather soon followed, and I think no birds perished. Larks appeared here the 7th, swallows the 10th, bluebirds the 11th, and goldfinches the 30th.

In the 5th month the weather was favorable to the growth of grass and grain, though rather wet for cultivating clayey soil. When warm weather commenced vegetation was rapid, and at the close of the month the earth was dressed in her loveliest vernal robes. A carpet of green, sprinkled with a profusion of wild flowers, was spread over field and forest, attracting the lover of nature from the din and bustle of business to range in the woods, and breathe the free air of heaven, made musical by the melodious notes of the feathered songsters, all tending to raise the thoughts to Him,

"Who, in His sovereign wisdom, made them all."

Plum and pear trees were in full bloom the 24th, and apple trees the 29th and 30th. There was a very full bloom, and the prospect is now good for an abundant crop of all kinds of fruit.

Winter wheat was badly injured by the late frosts this spring. Rye looks well. A great deal of spring grain was sown, and there is now a prospect of a rich harvest. L. VARNEY.

Bloomfield, C. W., 6 mo. 12, 1854.

For the New England Farmer.

VIEWING OF FARMS.

We are gratified to notice, that the practice which has prevailed for several years in our County of Middlesex, of sending out a committee to view all improvements to which their attention is called, is about to be adopted in the counties of Norfolk and Essex, and that the Trustees of the Agricultural Societies in those Counties have appointed committees for this purpose, with an assurance that the incidental expenses of travel shall be paid from the Society's funds. This is a reasonable and judicious appropriation of money. If such committees will but observe and report as they should, more benefits will be derived from the publication and circulation of such reports, than can be obtained for the same amount in any other way.

Farmers, extend to your committees a cordial reception, and let them feel that their presence meets a hearty welcome at your homes—they come as friends, and will do you no harm.

June, 1854.

REMARKS.—There is no one way, in our opinion, in which the interests of an agricultural society can be so much promoted, as by the labors of an observing, intelligent, farm-viewing committee. They should be men strongly imbued with a love of the art, thoroughly acquainted with its practical details, and capable of looking at it in a scientific point of view, and of such address as to introduce themselves readily to all classes of the farmers of the county.

The labors of such a committee will not be confined merely to a view of the farms entered for premium; they will note the general condition of agriculture—the appearance of the dwellings, th barns, granaries, fences, fields, orchards and woodlands, and the implements in common use. All this should be fully reported by the committee and published, and then the practices in the different counties may be compared, and a tolerable history of the condition of agriculture collected each year.

The committee, in their circuit, may also converse freely with many of the farmers, distribute the publications of the Society, or those of others, obtain new members, and generally advance the interests of the association.

The gentleman who has introduced the subject in the paragraph above, has probably done as much to establish and sustain agricultural societies, as any man in the Commonwealth.

For the New England Farmer.

EXPERIMENT WITH POTATO ROT.

GENTLEMEN:—I send you a short account of a successful experiment I made last summer against the potato rot. On the 5th of July last, I found my potatoes with the first signs of disease; all the top leaves looking as if they had been touched with a hot iron. I immediately procured a bushel of fine ground plaster and half a bushel of find salt, and mixed them well together dry, and had a large table spoonful put to each hill, lifting up the vines carefully and putting it on the surface of the ground, as much among the vines as it could be. It must be applied dry—this arrested the disease at once. The crop ripened well, and the potatoes were excellent. While all in our immediate neighborhood rotted, I have not seen a rotten one amongst them. I planted a third of an acre, and it required a bushel of plaster and half of salt—they were planted 3½ feet one way, and from 12 to 15 inches the other. The best time to put it around the potatoes, is immediately after hoeing or hilling the last time, as the crop is said to be increased enough more to pay for all the expense and trouble, beside getting a better quality. Very respectfully,

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GOOD ADVICE.—Stick to your trade, boys, and learn to work, if you would be truly independent. There is not a more pitiful sight than a half learned mechanic applying for work. He is always at the foot of the hill, and labor as he may, unless he has attained the years of his majority he will never be perfect, and can calculate on poverty as his portion with a good deal of safety.

Newport, N. H., 1854. J. B. WILLARD.

CUTTING AND CURING HAY.

For more than thirty years it has been a common saying among farmers, that timothy hay should not be cut until ripe—that is, until the heads were plump and full of seed. I was raised in a country where grass was thought ready to cut as soon as it was large enough; and after I came here, I followed through the same practice, although in opposition to the opinion and practice of many of my good neighbors. I followed the practice so long, and had so many opportunities to prove it, that I know to a certainty that my practice is right. For some 8 or 10 years past, I have used mostly timothy hay. Previous to that, I used more clover. Very often I have not been able to get it all cut before harvest; and having several cattle and sheep yards, some one lot of cattle had to eat the ripe hay, and I am perfectly sure that it is a great loss to let timothy hay get anything near ripe: in fact, whenever it begins to come in blossom, it is time to begin cutting. If there is much to cut, and not plenty of hands, some will then get too ripe. I would prefer good wheat straw, cut before it is too ripe, to ripe timothy, for either sheep or cattle.

A number of years ago, I built a cow house, and that season I cut my timothy hay earlier than usual. I stabled my cows for the first time that year; fed them the early cut timothy hay, and took every possible care of the cattle, but they became poor, would eat but little of my green hay, and by spring the cows and young cattle were overrun with lice, and poorer by far than I ever had cattle. I concluded I had cut my timothy hay too green, and that my neighbors were partly right. Next season I let it get nearly ripe, but my cows did no better. I then concluded it must be stabling, and took out my stalls, and turned my stables into sheds. After that my cows got fat on green hay. After I began to fatten cattle extensively, I found out that my cow stables were not thoroughly ventilated, and this was the only reason they did not do well in their stables.

The loss farmers sustain by letting their hay get too ripe, is immense. I would rather have four quarts of meal per day, with good green timothy hay, than to have a peck with ripe hay to fat a steer with. Cut grass or clover green, cure in swath or cock, and it will make either sheep or steers fat in five months, without grain, if they are properly attended to, but still it is more profitable to feed part grain.

I have wintered this season about 200 sheep on wheat straw, with one bushel of oil cake meal to the 100 sheep per day, and now they are fat, although but thin when I bought them.

New Geneva. JOHN JOHNSON.

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We believe with our correspondent, that the loss sustained by our farmers, by too long delay in cutting their grass is immense. It is a subject to which we have frequently called the attention of our readers for years past. Both science and experience demonstrate that the proper time for cutting grass is when it is in blossom. A writer on the scientific principle, in the process of haymaking, lays down the following rules:

1. Grass must be fully developed before it is mown; if not, it will be found in its early stages to contain so much water as to be reduced, on drying, into so small a compass, that it will in quantity much disappoint the hay-makers.

2. It must not be permitted to stand until its seeds are formed, much less ripe. All plants in arriving at maturity have their starch and sugar gum in large quantities converted into woody fibre—a wise provision of Providence for enabling the stem to bear matured seeds—and as sugar, gum and starch are nutritive elements, it is desirable that they should be preserved, and hence the point for successful grass-cutting is that between the full development of the plant and before the formation of the seeds; in other words when they are in flower.

A government report, published in the Edinburgh Quar. Jour. of Agriculture, on the "chemical properties of grass and hay as food for cattle," says—"If as we have endeavored to show, the sugar is an important element of the food of animals, then it should be an object with the farmer to cut grass for the purpose of haymaking at that period when the larger amount of matter is contained in it. This is assuredly at an earlier period of its growth than when it has shot into seeds; for it is then that the woody matter predominates—a substance totally insoluble in water and therefore less calculated to serve as food to animals than substances capable of assuming a soluble condition. It ought to be the object of the farmer to preserve his hay for winter use in the condition most resembling the hay in its highest state of perfection.

We add to the above, the testimony of several careful and observing farmers, heretofore published in the *Cultivator*.

C. M. Bement—Was formerly in the habit of cutting his timothy quite late, because it was easier cured after it got pretty ripe; but he ascertained, from careful experiment in using hay thus cut, that it wanted substance, and that the best time for cutting hay was when the grass was in blossom.

Sanford Howard—The stems of grasses were filled just before the formation of the seed, with a starchy or saccharine substance. In perfecting the seed, the stems were exhausted of this substance, it being consumed in forming the seed.—The plant should be cut before the nutriment has passed from the stems.

W. H. Sotham — Would as soon have good bright straw for cows or sheep, as timothy hay cut after it has gone to seed. Cut all his hay early. There was another great advantage in cutting early — the roots retained their life and strength better, and the after feed and future crop were more abundant.

J. Pratt—Commences cutting his hay generally before any one else thinks of it, or as it begins to blossom, and gets help enough to cut it all as soon as possible. He has kept a dairy of sixty cows for nine years, and attributes his success with his cows, and the fine healthy appearance of his other stock, mainly to early cut hay.

Since the above was in type, we have received an interesting paper from a correspondent in Mechanicsville, on the proper time for cutting, and the best mode of curing hay, which shall have a place soon, and for which the writer will please accept our thanks.—*Country Gentleman.*

OUR AIMS ARE TOO LOW.

The present day, says the *Country Gentleman*, is justly noted for the remarkable facilities which it afford for the improvement of the mind, and the general culture and refinement of the whole man. The means of thorough education are within the reach of every young man of determined will and resolute heart. Books upon every science and art, in every department of literature, invite perusal. Society, the very best, is free to every one who shows himself worthy the companionship of cultivated minds. There is no "lion in the way, of the advancement of any one who has a capacity for knowledge and the desire to make himself useful.

These facts suggest naturally the inquiry, why is the standard of literary attainment and individual excellence so low? Why are not our young men and young women availing themselves more generally of their opportunities, and elevating the tone and character of society! Why are the best years of our lives spent in the same round of vacant pleasures that gave amusement to "the young people" of fifty years ago, when schools and books were rare?

The fault lies in this direction: Our young people have not been taught to appreciate the beauties and feel the pleasures of association based upon intellectual sympathy and a mutual literary taste. They have seen that business men were rated by their relative tact and wealth, and that fashionable society, gilded and hollow, demanded no solid mental acquirement, or moral worth, to secure its patronage. A few high-minded young men and women, who have sense enough to be superior to frivolity and display, have discarded "fashionable" amusements, and are learning to estimate themselves and each other by the quality of mind and heart, and to strive for a higher degree of culture and excellence. We wish our land was filled with young minds of this character. In life purpose is every thing. We cannot aim too high, if we labor rationally and manfully, and honestly. We may, with our best exertions, fall below our aims; but it is certain that we shall never rise above them.

In continuation of this thought, we commend the following, from the Springfield *Republican*. Read, reflect and practice accordingly:—

There are subjects which, to touch upon with point and candor, would give pain and offence, and which need touching upon in the exact proportion that such pain would be given. Our only wish, in speaking of "our young people," is to excite a profitable course of thought, and to do good. So far as our observation extends, the young men of our acquaintance do not at all appreciate the age in which they live, or the duties which are soon to devolve upon them. We meet them in the street, we see them at church, we talk with them across the counter, we come in contact with them in occasional conversation, and the principal impression left upon us is a nicely fitting coat, a clean pair of boots, easy manners and a contented frame of mind. We go into their rooms, and find a novel, which they declare to be very good or very stupid. The Bible is out of sight, and the history and the book of travels are not upon their tables. If we speak of politics, they "don't care anything about politics, and are not posted;" if of religion, they think "it pretty much as a man thinks; if of any great question agitating the world abroad, they don't pretend to keep track of foreign affairs." As for thoroughly digested and well informed views of the literature of their own language, they have none. Notions they have in plenty—opinions with them are scarce.

This condition of things grows out of a mistaken idea of life and its true ends. Business is the one subject that rises above everything else. On this, they are well informed. Here, they are perfectly at home, and it is this establishment in their minds of what was intended to be secondary and subsidiary, as the grand end of life, which prostitutes their energies, and dwarfs their whole being. God never made mankind with the intention that selling dry goods, and counting money, and digging potatoes, should be the great ends of its pursuit. These are all simply the means of sustaining animal life, and securing personal and social necessities and comforts. A true manhood is the grand object of life,—that development of the intellect and the heart, that symmetrical and sturdy growth of character, which makes a man *a man*, which lifts him above the accidents of fortune, and give him power, influence, self-reliance, intelligence, energy, and, above all, a feeling of equality and self-respect, worth more than all the wealth of the Indies.

Tried by the standard suggested by this view, how many of our young men are *men* or are growing to be men? We leave it for them to answer how, in the time to come, when they take the place of their employers, they are fitted to meet the responsibilities of society. What kind of tone do they propose to impart to their own circle? What beneficent movements are they to lead in, and be the supporters of? These are serious questions which they are now deciding in their every-day life and pursuits. Society is to be in future what you, young men and young women, make it. Shall it be frivolous, shallow-mannered and shallow-hearted, or shall it be intelligent, high-toned, pure and ennobling, as becomes true manhood and true womanhood?

We are aware that there are discouragements in the way. We are met with the statement that there is no use in trying to get into good society unless you have money. We answer that society that measures its members by money is not good society, and is not worth getting into, and would be a curse to you if you were to get into it. Make your own society good, and then you will have good society. What to you are those poor specimens of humanity who estimate your importance by the corpulency of your purse? They do not call for a thought—and if you have true self-respect, you will not give them one. Tom Carlyle maintains the opinion that every man, by a law of nature, will find his own level, and he is right. You cannot miss it. We can select young men in Springfield who imagine that no one thinks of them, and who, in pursuing their schemes of self-improvement, think they are unobserved. Public opinion knows and measures them all, and their good name is abroad. When they come to make an independent movement for themselves, they will meet it. The world is coming more and more every day, to estimate men for what they are, and what they do and can do.

We are led to these remarks by the advent of

that time of year when self-improvement is more easily pursued than any other, and when schemes for this object are usually devised and consummated. What are you going to do the coming Fall and Winter? Are you going to form reading and debating clubs? Are you going to form circles for cultivation in composition? Are you going to lay out for yourself, or under the advice of friends, a course of private reading? Or are you only calculating on some private whist parties, or a few public cotillon parties? These are questions in which we feel a greater interest than we can express, for we know, and can but profoundly feel, that upon their decision depend the future usefulness, respectability and happiness of many a young man and woman.

MASSACHUSETTS VS. CALIFORNIA.

The *California Farmer*, published at San Francisco, by Warren & Son, in noticing the agricultural movements in this Commonwealth, says:—

"The Secretary of the Board of Agriculture of Massachusetts presents us in his grain table with the following data, and we present them to our readers in contrast to those of California. The following are the average crops of Massachusetts, as reported to the Board, and with them in contrast the crops, as reported to us by the record at the exhibition of last year.

	Massachusetts.	*California.*
Barley, per acre	21 bush.	60 bush.
Wheat	17½	50
Oats	30	45
Rye	14½	50
Carrots	700	1500
Beets	800	1500
Ruta Baga	500	1000
Mangel Wurtzel	800	1500
Onions	400	600
Potatoes	150	250

In many cases the crops of barley in this State upon entire ranchos will average 75 bushels, and those of wheat 60 bushels. Potatoes, in many instances, yield 300 to 350 bushels in large fields. In some cases that have come to our knowledge, the yield of root crops has been 25 and 30 tons to the acre, and onions have yielded ten or twelve tons to the acre, and even sixteen tons have been grown."

The *Farmer* then adds, that "the Middlesex County Agricultural Society present, in their premium lists, an inducement to agriculturists that should stimulate them to renewed exertions, and thus develope hidden treasures in the soil that could be brought forth in no other manner. The example of this county should be followed by every county in this State, where the subject of agriculture is prominent, and premiums should be offered in proportion to the advancement of the science." And after giving a list of each class of premiums, it says that "needlework, machinery, household manufactures, agricultural tools and implements, all have due attention, and a liberal allowance of special prizes. The total amount of cash premiums is over one thousand dollars, besides valuable prizes in books, &c. Such exertions to arouse a proper interest are beyond all praise."

The Messrs. Warren are making strong efforts to impress the minds of the people of that new State with the importance of agriculture. They have established the *Farmer*, and the earnestness and ability with which they conduct it, will undoubtedly be of more value to the State than the accumulated gold of a thousand miners.

AGRICULTURE IN EGYPT.

It is as true now as in the days of Zechariah, that in the land of Egypt there is no rain—Zech. xiv. 17—and the country is watered wholly from the Nile. A trench is dug from the river leading to a reservoir below its level, in which the water continually flows; from this the water is dipped up in buckets, by a contrivance like the rudest well-pole—the Shadoof—which is worked by hand, or by a wheel with buckets—the Sakia—which is turned by a rude cog-wheel apparatus, moved by a buffalo or a camel. Sometimes, where the banks are high, there is a succession of platforms with Shadoofs or Sakias to raise the water from one to another. At the surface it is poured in a trench, from which—as from an artery—smaller trenches branch off at intervals, and usually at right angles, intersecting and irrigating all the adjacent land.

As the whole of Upper Egypt is but a fertile strip—four or five miles wide by as many hundred miles in length—lying upon both sides of the Nile, between two deserts and their mountain boundaries—it is possible in this way to keep the whole country well watered. In the broader parts of the Nile valley canals are cut, into which the water flows when the river rises by the effort of rain in the mountains of Nubia and Abyssinia, and from these canals it is dipped up by the Shadoof and the Sakia, and poured into smaller trenches. In the Delta, or Lower Egypt, below Cairo, the different branches of the Nile, with the aid of artificial canals, suffice to flood the whole country during the season of high water; and in the time of low water, the Shadoof and the Sakia perform here, also, their customary office. It has been computed that there are in Egypt about 40,000 Sakias, or about four to every square mile of cultivation; but this seems to be an over-estimate. The large sugar plantations of the Pasha along the banks of the Nile, as well as the royal and the public gardens at Cairo, are now watered by means of steam forcing-pumps. In Nubia each water-wheel is taxed about fifteen dollars per annum; but there is no tax upon the land. In Egypt the land is taxed about three dollars per acre—which is from ten to fifteen per cent. of its cost—but there is no tax upon the water-wheel.

In this state of things, it was natural that the Shekh, on hearing of the great American Nile, should wish to know the cost of irrigating the country from the river as a first item in his comparison of the two countries. He was surprised to hear that there were no Shadoofs or Sakias on the Mississippi, but that sufficient rain fell to irrigate the land, and seemed to regard this as a great advantage. And so it is: for in Egypt the land-owner must erect his own water-wheels, and, as the land is held or rented in very small lots, the expense of watering it by the toilsome process of the Shadoof is a main item in the cultivation. Frequently three or four neighbors combine and

work the Shadoofs in company, for their common benefit. But, on the other hand, a land of rains requires better building materials than are found in Egypt, and especially shingles, for which this country furnishes no wood, unless the barks and leaves of the palm could be made a substitute. The statement that land could be bought for one dollar twenty-five cents per acre, and held in perpetuity by the purchaser, sounded strangely in a land where the greater part of the soil is held in fee by the Pasha, and can be bought only at from twenty to thirty dollars the acre, subject to a government tax of three dollars.—*Rev. J. Thompson, in Independent.*

For the New England Farmer.

CANKER WORMS.

Simon Brown, Esq. :—Dear Sir,—A writer in the *New England Farmer* of the 24th inst., has alluded to the glass collars invented by Mr. George Everett, of Roxbury, and to my use of them He also expressed a desire to hear from me "on this point, or any other that might profitably be availed of, as a curative for the increase and ravages of canker worms."

Fourteen or fifteen years ago, when canker worms were very plentiful and destructive in this vicinity, the use of tin collars, applied around the trunks of the trees, in the form of inverted funnels, was recommended to prevent the ascent of the female insects. In the autumn of 1852, they were employed in this place by several persons, who have reported favorably concerning them. The feet of the female insects are not provided with suckers or claspers like those of flies; and their structure seems to be such as would necessarily prevent their walking or retaining their foothold, against gravity, beneath a perfectly smooth, polished, and dry surface. Hence, when Mr. Everett first showed to me his glass collars, I was very favorably impressed with the contrivance, and accepted his offer to apply them to some of my trees, in order to test their efficacy. Two of my cherry trees and two small plum trees were provided with glass collars in the autumn of 1853; and these four trees have *almost* entirely escaped injury; while some other trees in my garden, not protected with collars or with tar, have been more or less seriously injured by canker worms. I do not consider this experiment as conclusive, because there have been some canker worms on the protected trees; those on the cherry trees may have come from two infested elm trees, growing near the fence in a neighboring lot, and so close as to interfere with some of the branches of my two cherry trees; the plum trees, on the contrary, were sufficiently distant from infested trees. Moreover, a friend tells me that he saw a female insect pass over the glass collar on one of his trees last autumn. The glass in all cases may not be sufficiently smooth; or perhaps moisture on the feet of the female or on the glass may enable the insect to stick to the glass. Further experiments in the use of this contrivance seem therefore to be wanting before an unconditional verdict can be given in its favor. It is my intention to apply these glass collars to other trees in my garden next autumn; in the expectation that, if effectual as a preventive to the ascent of the female insect, they will prove in the course of time cheaper and better than any other remedy hitherto employed.

Applications of tar, or of oil, according to the well-known methods, if made in season, and renewed as often as necessary, have proved good remedies against the depredations of canker worms. My own confidence in them not only remains unimpared, but is confirmed by continued experience. The use of these remedies is attended with much trouble and considerable expense, against which are to be taken into account the satisfaction and profit arising from the preservation of the foliage, the fruit, and even the continued health of the trees.

In an enumeration of remedies we are not to forget the services of the feathered race. The warblers, buntings and other small birds devour great numbers of canker worms. Even the cherry bird earns a share of our early cherries by the havoc he makes among the canker worms. I wish as much could be said in favor of the robins; but candor obliges me to confess that insects form but a very small portion of their food, while they are unsparing in their attacks upon our cherries. Domestic fowls, if allowed to go at large among the trees during the seasons when the female insects are rising from the ground, devour great numbers of them. During the present summer, some cherry trees growing in a yard where fowls are kept, have entirely escaped the attacks of canker worms; while trees in an adjacent yard from which the fowls were excluded have had their leaves wholly destroyed by the insects.

Thaddeus William Harris.

Cambridge, June 26, 1854.

A RAY OF LIGHT.

BY AARON SMITH.

A traveller in a weary land,
Benighted on his way,
Lone in a pathless wild did stand,
And wished the break of day.
The moon rose in the eastern sky,
And chased the shades of night;
The traveller raised his thankful eye,
And hailed the ray of light.

A weary heart on life's rough sea
Was sinking in despair;
The waves rolled on remorselessly,
And darkness gathered there.
A prayer went up to Heaven, and love
Poured radiance on the sight;
The heart, reviving, looked above,
And blessed the ray of light.

And so it always is, in life:—
Joy's cup is mixed with care;
And spring the noisome weeds of strife
Amid love's blossoms fair.
But mercy gilds the darkest scene—
Shines through the dreariest night;
And beauteous is earth's robe of sheen,
When gleams a ray of light.

Mark Lane Express.

Setting out Evergreens.—A subscriber says he has had no *luck* in transplanting evergreens, and inquires the best time and mode of doing it. The best time for setting out evergreens is in the spring and fall, when other trees are set out. As for *luck*, that depends upon yourself. We used to have no *luck* in this business, until we found out

that the roots of an evergreen never ought to *see day-light*. It is true that they will live sometimes when the roots have been exposed to sun and air But they should either be taken up with a good ball of dirt about them or be immediately wrapped up in wet moss or something similar, and so kept until planted again.—*Maine Farmer*.

For the New England Farmer.

HOUSE PAINTING.

The item of painting, paper-hanging and glazing, is no small one in New England, where there is, without question, a more general use of paint than in any other section of the world. Nowhere will you find less unpainted buildings, in proportion to the number, than here. Everybody uses paint,—we are sorry not to be able to except even some of the *sweet heart* confectionary people. All are interested more or less in its cost and preservation. The general subject, with suggestions as to the harmony of colors and the appropriateness of the various hues for the different purposes of use and ornament, will be the subject of these articles.

I need not say to those who understand the subject, that it is one which is usually far too little understood, coming as it does under every day observation, it would seem to be well for all to know its most simple details.

Since the recent extensive manufacture of zinc white as a pigment, there has been great inquiry as to its merits, in comparison with lead. Having given the subject personal attention for the past two years, I am prepared to recommend zinc, because it is not so poisonous, an equal number of pounds will cover more surface equally well, and it is more beautiful. And besides, I know no reason why it is not more durable. There is a mistaken notion, which is very prevalent, that white lead is the *oxide* of lead. It is the *subcarbonate*—*litharge* is the *oxide*, and *red lead* the *deutoxide*, while white zinc, as it is called, is the oxide of zinc; and not a carbonate, like white lead.

The drying process is not by evaporation like varnish, but by the absorption of oxygen from the atmosphere. Inexperienced painters frequently complain that zinc does not cover so well as lead; the reason is they use it *too thin;* it has to be mixed apparently thicker and spread on more flowing than lead; so treated, it is more satisfactory, and still not so expensive as lead. The idea has been extensively promulgated, that painting done in the fall of the year, is far better than at any other season. It is easy to see the origin of this notion and the means of its continuance. Painters always have a special rush of work in the spring; all nature is then thawing out of winter quarters. Man feels the renovating influences, and then, if ever, a desire to assist nature in the beautifying processes going on around him, to make improvements and repairs. All want their work done "right off," but they can't all be accommodated at once; the painter must be idle most of the year, or have his work distributed through the season. Some shrewd one starts the idea that it is actually *better* to wait—the economical ones do wait—and the idea is extensively diffused; everybody believes it, and the painter is benefited, and the story has performed its mission. Now the proper time to repaint is, when your buildings need it; when they begin to *chalk*, for even if there *is* an advantage, the loss sustained, will, beyond all doubt, more than counterbalance the benefit to be derived by waiting. The best time to paint, is when it will be *thoroughly dry*, before either very *hot* or very *cold* weather; were there no other considerations to be taken into account.

As to color for outside painting, a house with no architectural pretensions may, with propriety, be painted white, or almost any other lively color, but a building, the moulding, cornices, carvings, &c., which are alone ornamental, should not be painted white, or any other brilliant color, because the amount of light reflected, would in a great measure destroy the architectural effect.

SKYLIGHT.

COAL ASHES A REMEDY FOR BUGS ON VINES.

Every discovery which promises to assist the farmer in economizing cash or labor is entitled to regard; for, as Poor Richard says—"A penny saved is as good as two pence earned." Some have recommended the application of gypsum or plaster of paris, soot, sulphur, snuff, &c., as a protection for vines against the ravages of the yellow bug; but neither of these has been found efficient in securing the plants from their depredations, and many assert that they are of no service, whatever. Nevertheless, it would seem from the following communication which appeared originally in the columns of the *Boston Cultivator*, over the responsible signature of S. H. SHURTLEFF, that a remedy has at length been found in coal ashes, and that when applied to cucumbers, squashes, melons, etc., it affords an Ægis invulnerable to the "striped bug," as well as to the "black bug," which attacks them generally at a more advanced period of growth. We present an extract of Mr. Shurtleff's article, as it is always more satisfactory to the reader, who reads for *instruction*, to have experimenters relate the results of their experiments in their own words:—

"Last week the 'striped bug' came in showers, on my vines, and in less than two hours the latter were covered with them. It appeared as if they would be devoured. I put on plaster (gypsum) but it did not remove them. I then put on a quantity of coal ashes, about half a pint to a hill, by sifting it on, and in less than an hour not a bug was to be seen. Then, to try the comparative effect of plaster and ashes, I put ashes on one hill and plaster on the next, and so on alternately, and I found in all cases where the ashes were put on, the bugs left, while they remained where the plaster was used.

"I found my melons beset with the small black bug that so often destroys melons and cucumbers. I directed my man to put ashes on them, and I was much pleased to find the insects immediately left them, and they have not re-appeared. I feel confident that the ashes of either hard or soft coal will prove a sure remedy for keeping bugs from the vines; and as they are now considered almost

worthless, I think we shall find that no individual thing is made in vain."

Those who can procure the article would do well to test its value by a trial; a remedy for this evil has long been a desideratum, and we can only hope that, in the above, it has been attained.

A FEW IDEAS ABOUT MILK.

This liquid is secreted in special organs of the female mammalia, for the nourishment of the young, and it necessarily contains all the ingredients required for this object. It contains indissoluble matter held in mechanical suspension. It is a solution of a small quantity of different salts, with a considerable portion of sugar of milk, and a nitrogenious substance named *cheese* or *casein*. A number of small globules of fat of different sizes are suspended in it; they can only be discerned by the microscope. The salts of milk, which amount to about one per cent. of the whole, are the phosphate of lime, phosphate of magnesia, phosphate of iron, chloride of potassium, chloride of sodium and soda. The soda holds the casein in solution. Pure casein is scarcely soluble in water; its combinations with the alkalies, however, are very soluble. The addition of a small quantity of acid separates the soda from the casein, and this makes thickened milk, the curd being no longer in solution with the alkali. Casein is the most abundant substance in the milk.

After the casein is precipitated there is sugar in the remaining liquid or whey; this is the reason why it has a sweeter taste than even sugar milk. This is the only sugar generated in the process of animal life. It requires three parts of boiling water and twice as much cold water to dissolve it. The sugar of the milk is easily converted into lactic acid; it is owing to this quality that the acidity of sour milk is due.

It has been found by experiment that a cow fed upon grass yields a greater quantity of milk than when fed upon any other food. So far as a series of regular experiments afford any data for conclusion, that kind of food which contains the greatest quantity of milk, and the best kind of it, also contains the greatest quantity of butter, and this is not singular, for butter contains nitrogen. It is not a good plan to feed cows on a uniform diet; for experiments have proved that the yield of milk, by such a system of diet, gradually diminishes: it is, therefore, a good rule to change the food of milch cows frequently.

The milk obtained from cows in the morning is generally richer than that obtained at evening. It has been found that certain pasture grounds are much better than others for the production of rich milk. We believe that the subject of good grazing grounds has not received the attention which it demands. There is certainly as much difference in the grass, herbs, &c., in certain pasture lands, as there are in different kinds of food.

As acid is the cause of souring milk, and as the result of it becoming acidulous is a complete separation of the casein from the other parts, it has been suggested that the addition of some alkali, such as soda or saleratus, might render sour milk sweet. The truth is, that the addition of an extra quality of alkali is just about as great an evil as an excess of acid. It is the perfect solution of the fatty parts of milk with the alkali in it, which imparts that fine flavor to it when newly taken from the animal. If some pearlash be dissolved in warm water, and some pure sweet olive oil be poured into it and well stirred, the liquid will also possess a flavor like that of sweet milk.

In some parts of our country there has been severe droughts this summer, especially in the State of Maine. It is stated that the hay is only half a crop, and that farmers will have to sell a great deal of their stock before the winter sets in. Those of our farmers who have milch cows should use less hay for food than they now do. Cabbages, beans, linseed, barley, potatoes and hay should be given to every milch cow during the winter at the north. These kinds of food can be varied so as to have a change every week. Every farmer should have a steaming apparatus in his barnyard; and plenty of pure air and good drinking water are as necessary as good food, for the health of milch cows and the production of a superior quantity of good milk —*Sci. Amer.*

For the New England Farmer.

CULTURE OF HORSE RADISH.

FRIEND BROWN:—I saw an article recently in your paper by B. H. FRANKLIN, of Worcester, on the cultivation of horse radish, with which I do not feel quite satisfied, and propose to give my mode of cultivation, viz.: Take any good rich land with a deep soil that is suitable for a garden, root crops generally, or a well drained bog meadow that is in a good state of cultivation, and ridge by turning two furrows together 3 feet apart, make smooth by raking, if necessary, and plant the seed 15 inches instead of 2 feet apart; some cultivators put it nearer both ways.

The after cultivation consists in keeping the ground light and clear from weeds in any way that best suits the cultivator. I prepare my seed early in the spring, by taking roots ¼ of an inch in diameter, and cutting in pieces one inch long; wash clean and rub off all fibrous roots, and then cover them up in the ground until the sprouts are an inch long, and previous to planting, rub off all but the best one. The reason for this operation is, that you will have less small roots; consequently more large ones.

For the cultivation of horse radish generally, dig late in the fall, all that is wanted for winter use, and let the rest remain in the ground for spring, as it is not easy to keep it well in dry cellars.

Yours, B. F. CUTTER.

Pelham, N. H., 1854.

For the New England Farmer.

ESSEX COUNTY.

The annual address before the *Essex Agricultural Society* will be delivered by Prof. E. A. PARK, of Andover. This Society has uniformly chosen their orator within their own limits; and we believe about one third of the number chosen have been clergymen. Among this number we we remember Dr. EATON, of Boxford, Dr. PERRY, of BRADFORD, Dr. ABBOTT, of Andover, Dr. BRAMAN, of Danvers, Dr. COLMAN—all of whom succeeded in giving sound instruction to the farmer. Indeed, as a class, clergymen are rendering the cause of agriculture more important aid than any

of the other "professions." Many of them are not only conducting the operations of the garden, but those of the farm, with signal success. Well may many of us look to them for examples even in *field* culture.

For the New England Farmer.

FARMING IN OHIO.

Two years since, I requested a sample of your papers with which you were kind enough to favor me, and with which I was so well pleased that I ordered the monthly, whose visits since have been as regular as the changes of the moon, and whose contents have afforded me no little satisfaction, and I trust profit.

I have often thought your teachings might benefit some of the farmers in this vicinity, and have sometimes been half tempted to make an effort in your behalf, but when I reflected on the ungentlemanly rebuffs I have been subjected to in soliciting names for papers of less magnitude and less price, my zeal has abated and my heart failed me. Who can be so extravagant as to suppose that an economical farmer will pay out a whole dollar a year for a paper that is to counsel and advise him in his own "peculiar" occupations! Yet these same men—some of them at least—can pay twice or thrice as much for worthless things containing miserable daubs, by some called comic pictures, and trashy reading that no sensible reflecting man would read himself, or furnish his family to read. Ask these men to become members of an agricultural society, and with uplifted hands expressing "holy horror" they exclaim it is a gambling institution! Watch them a moment. The first doggery they reach they are ready to "sky a copper," or odd and even for the "scoots." Satan rebuking sin. If our agricultural societies would agree to "stand treat" to all unsuccessful competitors, they would no doubt add many to their numbers though perhaps not much to their respectability. Such men are not scarce in these "diggings" yet; but thanks to the energy of better men in diffusing information and introducing improvements, their numbers are annually growing "beautifully less."

We have quite a flourishing society in this place, that has seen five summers, which we think has already been the means of doing much good. There are some Durhams among us that would do no discredit to Old England, besides a handsome sprinkling of Devon blood. We have some Suffolk pigs that we are disposed to think are about the right stripe, although they are not "striped pigs." Of horses there are some good ones, as well as some that need not be praised. There are representatives of several varieties of sheep, Leicesters, South Downs, and Merinos, with and without the Cornwall and other finishes. We have some fine biddies too, among them, some of them tall fellows that took such a shocking bad cold coming across the big water. Besides the stock enumerated we have some railroad stock among us, and though I do not much approve of fast nags, still there are animals belonging to that stock that are somewhat noted for their speed, and if you should take a notion to ride out here some pleasant afternoon—provided you can get a pass at Erie—though some of us still live in rather a "primitive style," you may be sure of a hearty welcome for we always leave the "latch string out." You have really "*par nobile fratrum*" in your associates.

Cannot Mr. Holbrook be induced to give us some such sketches of farms and farming as he did a few years since in the *Albany Cultivator*. To my mind there is no agricultural reading of more benefit to the young farmer and to men who have left other occupations and become tillers of the soil. There is no stimulous like good examples. Let us have them, that others seeing their "good works" may "go and do likewise." We have heard much during the last few years about Terra Culture. Of that I know but little. But when I see an enormous hole, the full width and depth of a spade, excavated to receive a fruit tree six feet in height, into which the refractory roots are forced by the application of the nether portion of a coarse boot, I think if that tree could speak, its first theme for a discourse would be *Terror Culture*. When I see as I have seen, the plow run as near the rows of corn after it has silked as it can be without tearing it up, and as deep as a horse can draw it, I think surely if that corn could speak, its first words would be *Terror Culture*. Lest you should be terrified at the length of this talk, I close, giving you the same privilege the Paddy did his friend, to read it or not.

Yours, J. D. Burditt.

Norwalk, Ohio, 1854.

Remarks.—Keep on, friend Burditt, in the good cause, with a brave heart. Those men who now "sky a copper," cannot all of them resist your influences—some of them will come over to you and be as active as sky-larks yet. We hope to hear from you again.

For the New England Farmer.

WHAT NEXT?

It is said the Indians have sown powder, expecting to raise their own ammunition; but what an amusing story here is, for which the *Poughkeepsie Journal* stands responsible. B.

A Rescue.—Not long since, while passing near a sand bank, we saw a little boy shovelling sand with all his might, and upon nearer approach discovered two legs projecting upward, the body almost buried out of sight. We were alarmed at such a spectacle, and lost no time in dragging the little fellow from his perilous position, nearly exhausted, where he could not have remained much longer without perishing. After the excitement had partially abated, we heard from the boys the pitiful reason for the act. It appeared there had been three playmates, who had spent most of their time together; that one had removed to another part of the village, leaving these two to pass their play hours in what they considered solitude. In order to remedy this, they formed a plan to increase their number. It appeared simple to them. One was to be planted, leaving his legs out of the ground, from which two boys would grow and restore their former number. The one planted, had volunteered to be the victim of transformation. His part was to dig the hole and crawl in, and the other to cover him up. At first they were indignant at our interference, but after a familiar dissertation on cause and effect, the boys became reconciled to us, and promised they

would never again undertake this kind of horticulture.

For the New England Farmer.

HOW TO FIND WATER.

Mr. Editor:—About a year ago, a stranger came here and passed the night, and in the course of the evening he said that his business had been that of digging wells, and that he could by means of the rod, tell where to dig for water, and how far it was to it. We did not believe it, and in the morning he said he would try it. So in the morning he got a rod and went into the road and walked along, holding the rod in his hands, the palm of his hands being turned up. He had not gone but a few steps when the rod began to turn down till it pointed perpendicularly to the ground; he then said he would trace the vein and see where it went to—and he traced it directly to the house where there was a well, but entirely covered up, so that there were no signs of a well there, the pump being taken out. And then we began to believe there was something in it. My father took the rod and held it in the same position and passed over the vein and it had no effect at all. Then I tried it, and to my utter astonishment the rod worked in my hands as well as it did in the stranger's. I held the rod as tight as I could grasp it, and it would turn down, wrenching the bark from the rod. Last August I thought I would dig in the pasture where the rod indicated there was water. I dug about seven feet and came to a good spring of water; the surface of the ground where I dug was dry, and gave no appearance of water. One of my neighbors had dug a well a year or two before, for the purpose of supplying his cattle with water, and found but little, and he wished me to go and see where he could dig and find a good spring. I went and found that he had dug within about eight feet of a vein. He went to work and dug about eight or nine feet, and found a good supply of water. I have seen a great many persons try it, but the rod would not work in their hands. I use a crotched stick, the prongs being about two feet long. Sweet apple, black cherry, or peach rods are as good as witch hazel, and I believe point out passages of water in the ground if held in certain persons' hands. Why they will not work in every one's hands I am unable to tell. E. N. C.

Jamaica, Vt., 1854.

"BLINDS" ON HORSES.

In passing through this city, I have seen many fine horses, some of which must be getting blind from the cruelty of their drivers; not by whipping or starving, but from the manner in which blinders, so termed, are used. No horse can have good eye-sight after wearing these unnecessary appendages for a length of time, as I have seen them, so closely drawn together in front as to rub or chafe the eye-lids. It is hurtful to have them, worn as they usually are, thrown out an inch or so from the eye. If they must be worn, it would be much better to set them out, at an angle of forty-five degrees or more, from a right line with a side of the face. It would, however, be still better if they were not worn at all.

A horse will soon get accustomed to all that he can see, as not to be any more easily frightened without them than he is with them by the sense of hearing. He is too valuable an animal for us to be careless of his health and comfort, too noble a gift to be so misused as to lessen his own innate worth, to say nothing of his commercial value.

I have charged this as a cruelty coming from the drivers, because they can easily remedy the matter. It is not my intention to assert, that wrong in this matter is so by the choice of these men. It would be as much as saying that they, as a class, are destitute of all the kindly feelings of humanity.

These remarks are not intended to apply to the city more than to the country, for these cruelties are practised in the latter place quite as much as in the former.—*Corres. American Agriculturist.*

A LOFTY CATERACT.

Capt. Walker, of the U. S. Surveying Expedition, gives the following account, in the *San Diego Herald*, of a wonderful cataract which he discovered in his explorations:—

"On the Upper Virgin river are two very remarkable falls. One of them, two hundred miles from its mouth, is the most stupendous cataract in the world; it falls in an almost unbroken sheet a distance of full one thousand feet! The river some distance above, traverses a pretty timbered valley, and then runs through a close kenyon. Here the current becomes rapid. The mountains seem to run directly across the river. At the fall the stream is narrowed to thirty or forty yards—while the kenyon rises on either side in almost perpendicular cliffs to a height of two hundred feet. The pent up stream rushes on to the brink of the precipice, leaps over the falls with scarce a break into the vast abyss below.

About thirty miles above, there is another magnificent fall. Here the river plunges over the cliff, falls a distance of two or three hundred feet, and breaks into a myriad of fragments upon a projecting ledge beneath. Although the fall is not so great as the other, it is more picturesque, from the multitude of smaller cataracts into which it is divided by the rocks."

A CURIOUS STRUCTURE.

The nest of a tarantula (spider) has been found in California, of most singular construction. It is about three inches in length, by two in diameter, built of adobes, the walls being nearly half an inch thick. Inside is a projection, which nearly divides into two apartments about an inch in diameter. The inside is lined with a downy substance, not unlike velvet, and presents one of the cleanest and most tidy little households imaginable. But the most curious part of it is a door, which fits an aperture and closes hermetically. The door is secured by a hinge, formed of the same fibrous substance as the lining of the house, and upon which it swings with freedom. The next is occupied by a dozen little tarantulas, which seem to subsist upon a yellow secreted substance that appears on the walls of the front apartment. The arrangement of the door for the protection of the little inmates, indicates great instinctive architectural knowledge. It is the intention of the finder to forward this curiosity to the Smithsonian institute at Washington.

For the New England Farmer.

USE OF GUANO.

Mr. Editor:—Some notice was taken in your paper, the last season, of an unsuccessful application of *guano* to land sown with grass seed, which came up well at first, but did not mature sufficiently to be worth cutting. The field has remained in the hope of a better result—but with little prospect of it. The present appearance is, that no benefit whatever, will result from the *guano applied*. I saw the field a few days since, and am satisfied that there was some mistake about the dressing or mode of applying it.

Another field has recently come to my notice, where about 200 lbs. of guano was applied to the acre about the first of April. It was dissolved in urine, collected under the stalls of the stable, and spread upon the land, from the cask set upon wheels, such as is sometimes used for the watering of streets. The growth of grass, however, is luxuriant,—not less than three tons to the acre, for the first cutting. How much of this is to be credited to the guano account is matter of conjecture—but I think, not less than *ten pounds* of hay to *one* of guano—which is pretty well for first experiment.

Having stated the failure in one case, I thought it but fair to state the result in the other.

The last season, I heard considerable said of a preparation of bones for fertilizing uses by Prof. Horsford of Cambridge, and saw some specimens distributed for trial, but have heard nothing of it the present season. Can you tell me, and the public, what is to be expected from this source.

June 26, 1854. *.

For the New England Farmer.

TIME FOR TRANSPLANTING FRUIT TREES.

One of my first lessons in Horticulture was, that *stone-fruit trees*, should be transplanted in the Spring, but that other trees would do equally well in autumn, if not better. Mr. Cole (author of the Fruit Book) once told me that peach trees, even, if planted in the fall, would do quite as well as if planted in the spring. To some extent I have acted on his suggestion, when convenient, but my success has been poor. In more favorable latitudes, tender fruit trees and all rapidly growing forest trees, perhaps, will do well planted in the fall. But in Massachusetts these trees live through our hard winters only by virtue of their tenacity to the soil, which keeps up the temperature of the stocks and enables them to resist a frost which if loosened by fall planting, would probably prove fatal to them. It is reasonable to suppose that a sudden check of the sap in rapidly growing trees, or a diminution of its quantity, previous to a hard winter, must be detrimental.

A few years ago I planted in autumn a dozen or fifteen small silver-leaf maples—very rapidly growing trees—but they were nearly all winter-killed. About a dozen peach trees which I set last fall, look now as if they were dead, and they will probably not show much disposition to rally for some weeks, if they do at all. Of all trees, the peach seems to be the most affected when planted in autumn. My experience teaches me, also, that the spring is the best time for plums. Apples and pears, however, do very well in the fall; and if well planted, with some compost in the hole, which will well decompose in the winter, it may be the best season.

When rapidly growing trees are planted in the spring, it is important that they be taken up early before the buds swell, and heeled in, or kept in some damp place, till convenient to set them out.

Hardy, slow-growing trees, when planted in autumn, require less mulching than when planted in the spring; and this fact furnishes one reason for fall planting, all other things being favorable. If a tree has grown very rapidly the previous reason, I should prefer to transplant it in the spring.

In regard to heading in at transplanting, I think all superfluous limbs should be taken off; but no more, under ordinary circumstances. Of a dozen large pear trees set last fall, brought from western New York, some were headed down this spring and grafted with better sorts; but those not liberally trimmed threw out buds as soon as the others. The scions did not take, as was partially anticipated—the branches being cut off with a view of saving the tree. D. W. L

West Medford, June 17, 1854.

Remarks.—Our own experience in transplanting fruit trees has been much like that of "D. W. L."

For the New England Farmer.

CHINESE FOR FARMERS OR GARDENERS.

Some months since, an interesting article, on the subject of "Chinese Manures," was published in the *Farmer*, in reply to my inquiries, written by the Rev. Mr. Syle, who spent several years in China, as a missionary. I have just received a letter from him, dated New York, July 7th, in which, alluding to my interest in the agriculture of the Chinese, he says:

"Allow me to inquire whether your interest extends from their agriculture to the Chinese themselves, and whether you would like a little company of them to work together on your farm. If so, I think you could be suited, for I find here in this city some eighteen or twenty Chinese, who I think could be induced to engage themselves as husbandmen, gardeners, &c., and that too at a rate of wages which might be considered quite low in this country. For the last few weeks I have been a good deal among the Chinese who have found their way here—indeed I have been invited to act as a sort of Home Missionary among them—and much they needed some one to give them a helping hand, for they have been shamefully imposed upon in this Christian country.

But to return to my suggestion; if it falls in with your views, I should be glad to hear from you at once stating how many you would like to take charge of, and on what terms.

I am, Sir,

Yours very truly,

E. M. Syle."

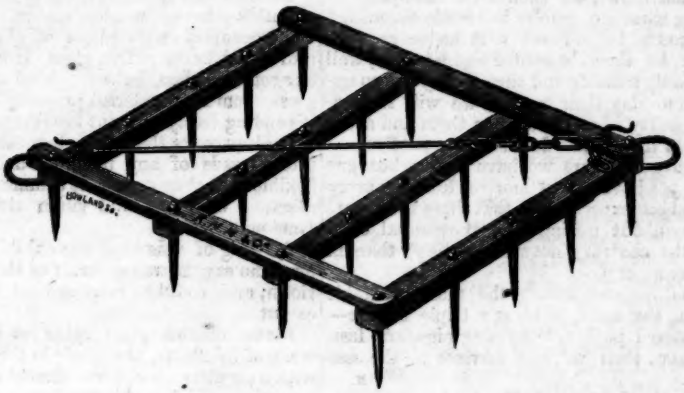
Being unable myself to employ any of these people, I take the liberty of publishing the above extract of a private letter, in the hope that some of the farmers and gardeners in the vicinity of Boston will be induced to take a "little company" of these "Celestial" strangers, who in coming to this Christian country have unfortunately fallen

among thieves, rather than friends. Mr. Syle found them in a deplorable condition, at sailor boarding-houses, &c.

To say nothing of the novelty of the thing, or of the inducement of low wages, I really believe there is an opportunity here of doing good at a cheap rate. For the credit of our country, our benevolence, our Christianity, these strangers surely ought not to be abandoned to the lowest specimens of our "civilization," which a great city affords.

I will take the further liberty of requesting those who feel disposed to employ any of these men to communicate directly with the Rev. E. W. Syle, 53 Broadway, New York. S. FLETCHER.

Winchester, July 13, 1854.



THE EXPANDING AND REVERSABLE HARROW.

The expanding and Reversable Harrow is so constructed as to admit of being widened or narrowed, to do coarser or finer work, as circumstances may require. The two bars on top of the frame work, are connected with the four under bars by the outside teeth, the upper parts of which are rounded and shouldered, with nuts and screws on the top, and on which the entire frame swivels or turns in expanding and contracting, which is done simply by shortening or lengthening the chain on the top. Thus the harrow is made any desirable width, and any degree of fineness, while the teeth in every position operate independently of each other. The harrow is constructed to be drawn either end forward, so as to secure sharp teeth, and is folded completely together for transportation. Various sizes, made heavier or lighter, are supplied to order.

ASHES ON POTATOES.—*More Evidence of Value.*—Our readers may remember that Mr. Barret, of Cayuga, published a statement that he and his neighbors had prevented all rot in their potatoes for several years, by sowing ashes over them, at the rate of from two to three bushels per acre, once a week for six weeks, commencing immediately after the second hoeing. Rev. Lyman Smith, of Charlotte, Vt., confirms this statement in a letter to the *N. E. Farmer*. He says he has prevented the rotting of potatoes by sprinkling the tops with ashes as soon as they made their appearance, a table-spoonful to each hill; after hoeing, applying the same amount again. The ashes were applied immediately after a shower, or upon a heavy dew. After such applications, he has no rotten potatoes.—*Count. Gent.*

For the New England Farmer.

SWINE.

There is but little of the Jewish blood in our veins, or Mohammedan faith in our hearts, yet perhaps the most devoted Mussulman would fail in the attempt to show a more *striking* proof of his aversion to swine, than is given by the "hired help" and boys of many a yankee farmer.

True, there is little that is engaging in a hog's manners, or amiable in his disposition, or inviting in his appearance, yet we cannot conceive why his ill-nature should make him the most abused of all domestic animals.

He is not made more tractable, nor more profitable, by the kicks and pelts he receives. His stubbornness is not overcome, by being compelled to fast through the day, because it may not be convenient to feed him. His thrift is not promoted by being kept in cold weather, in some cold, dark, damp place, with the bare planks, or the planks covered with ice, for his bed. His porker qualities are not increased by being compelled, some dozen times a day, to perform the feat of leaping some 4 to 6 feet, from pen to yard and yard to pen; and all this merely because he is "nothing but a hog." Men complain of his filthy appearance, yet keep him where nothing else can live, yet, reflect not that he will thrive well while filling the same place among farm laborers that scavengers do in city governments. The unsightly brake, the withered fruit and refuse roots, are to him a luxury, yet a luxury of which the indolence or neglect of his owner often deprives him. The cry—"the hogs are out"—is often raised on farming premises, and harsh maledictions are poured upon the head of poor pig for uprooting his fence, when in fact, the hog was merely giving a practical illustration of what use he might be, would his master but furnish the materials, such as muck, leaves, &c.

Swine, like all other domestic animals, must be

well cared for and well treated to be profitable, and when so treated, their industry, their thrift and improved appearance, will "preach humanity to man."

The longest count in the charge against the hog, is that "the mothers neglect or ill-treat their offspring." In answer to this charge, I reply that "like begets like." If we treat our hogs as monsters, not to be approached without the bestowal of kicks and blows, we should not complain of their being what our cruelty has made them. Let the same course be pursued with swine as with neat stock, let them be carded and handled, well fed and kindly treated, and then if they are so unnatural as to slay their young, we will let sentence of "guilty" be passed upon them and abandon them to their fate—death by the butcher.

For twenty-five years we have known but one cross hog, yet have reared more or less pigs every spring, and our experience is that there is no more uncertainty about raising pigs (the general complaint to the contrary notwithstanding) than in rearing any other stock.

With me, hogs are among the most profitable animals on the farm, yielding a triple income—the slaughtered porker, the young pigs, and last, yet not least, their valuable services in the manure yard. M.

Chester, N. H., June, 1854.

IRON HOUSES.

A friend of ours who is building a tenement, complained, not long ago, that he found it difficult to obtain such lumber as he wished for the purpose, adding, "I never thought there would be any trouble here in obtaining any kind of lumber that one wanted; what will folks do when the lumber is all gone?" "Build iron houses," said we. "There is iron enough in different sections of the State, to build houses for hundreds of years." "Yes," said he, "and it will be thousands of years before they will build anything of the kind here."

Now we do not see why, even at the present moment, iron houses cannot be built as cheap in Maine, as in some other States. We have iron enough—we have wood enough to heat the furnaces to smelt it, and lime enough to make flux to facilitate its reduction from the ore to a metallic state. All, therefore, that is wanted, is, capital to start the business, enterprise enough to begin it, and faith enough to carry it out to success.

We see in the *N. Y. Leader*, a glowing account of building iron houses, by Mr. Sexton, of Brooklyn, N. Y.

We make a few extracts from this account in order to shew our readers how much this mode of building houses has advanced.

Mr. S. constructs the frame-work of his building entirely of cast iron, in sections which are made to interlock by very close fitting, and ingenious joints secured by keys. This mode of fitting avoids the labor of drilling and bolting which has been a great inconvenience of iron buildings.

The frame work he covers on the outside with plates of iron, by a similar system of interlocking without any bolts or other fastenings—the joints being packed with gutta percha, so as to exclude water under hydraulic pressure.

To finish the dovetailing of the joints, he has invented a machine that performs the work of forty men. The walls are made hollow, and the enclosed space is filled with a non-conducting composition of beach sand, and other substances, so that when finished they become perfectly fire-proof.

The roof and floor are made of cast iron frames, resembling heavy window sashes, the interstices being occupied with plates of glass of any required thickness. This glass, it is stated, is not our common glass, but a new kind called malleable glass, from its wonderful property of toughness, it bending freely without breaking.

It also asserts that this glass can be drawn out into threads of any fineness, and so tough and flexible that they are about commencing the manufacture of piano and violin strings from the same material.

A string of this glass was exhibited to the writer, who says it was as small as the E string of a violin, and could be bent around the finger like catgut.

Plates of this glass being let into the frame work of the floors, the whole is then covered over with a peculiar transparent cement of Mr. Sexton's invention, which makes the floor look like one solid plate of glass. The cost of roofing with this material, is 75 cents per square foot. The walls inside can be covered with plaster, or finished with iron or glass at the option of the builder.

All the interior ornamental work, such as mantle pieces, panels, &c., may be made of this malleable glass.

This looks like an expensive mode of building houses, but yet it is comparatively cheaper than many other modes adopted. Mr. Sexton sums up the advantages of his mode as follows:

1. Its great cheapness and rapidity with which it allows construction, it effecting a saving of one-third in labor over any other mode. He could construct an ordinary house in 40 days.

2. The variety of style and finish that can be obtained at small cost, by different combinations of the same patterns.

3. The facility with which such a building can be taken down and removed.

4. Its security from damage by fire or lightning, thus saving insurance.

5. Its durability, freedom from vermin, &c.—*Maine Farmer*.

Amount of Lime Carried off by Various Crops.—It is calculated that the amount of lime carried off the soil by ten bushels of grain and the straw on which it is grown is as follows:

10 bush. Wheat and the Straw,	5.18 lbs.
10 do. Rye do.	6.47 "
10 do. Corn do.	6.14 "
10 do. Barley do.	4.84 "
10 do. Oats do.	3.87 "
10 do. Field Peas do.	44.74 "
2000 pounds of potatoes	1.03 "
2000 pounds of turnips and tops,	5.92 "
2000 pounds of flax	14.85 "
2000 pounds of red clover,	43 77 "
2000 pounds meadow hay,	22.95 "
2000 pounds of cabbages,	9.45 "

☞ The way to gain a good reputation, is to endeavor to be what you desire to appear.

FEEDING OF ANIMALS.

On the feeding of animals.—Main visible functions of the living animal.—The food must supply the wants of respiration.—Nature, wants, and purposes of this function.—The daily waste of the muscular parts and tissues of the body.—Food necessary to repair it.—Saline and earthy matters contained in its several parts, and daily rejected by the body.—Waste or increase of fat supplied by the food.—Special waste in the perspiration.—Forms in which the solid matter of the tissues escape in the urine of animals.—General balance of food and excretions.—Kind of food required, as indicated by the composition of the blood.—Importance of a mixed food.

The food of plants we have seen to consist essentially of two kinds, the *organic* and the *inorganic*, both of which are equally necessary to the living vegetable—equally indispensable to its healthy growth. A glance at the purposes served by plants in the feeding of animals, not only confirms this view, but throws also additional light upon the *kind* of inorganic food which plants must be able to procure, in order that they may be fitted to fulfil their assigned purpose in the economy of nature.

MAIN VISIBLE FUNCTIONS OF LIVING ANIMALS.

Man, and all domestic animals, may be supported, may even be fattened, upon vegetable food alone. Vegetables, therefore, must contain all the substances which are necessary to build up the several parts of animal bodies, and to supply the waste attendant upon the performance of the necessary functions of animal life.

All living animals perform three main or leading functions necessary to the continuance of healthy life.

1. They *breathe*, alternately inhaling and exhaling air by means of the lungs.

2. They *digest*, dissolving the food in the stomach, and selecting from it the materials necessary to form blood.

3. They *excrete*, rejecting in the solid excretions and the urine, or giving off from the skin and the lungs—

a. That part of the food which cannot be dissolved and made use of as it passes through the alimentary canal.

b. The materials derived from the decomposed tissues or parts of the body which are undergoing a constant waste.

To the wants of an animal performing these visible functions in a healthy and regular manner, the food must be adapted in kind and quantity. I shall briefly illustrate what these wants demand.

To the numerous minor and invisible functions performed within the several parts of the living body, it is unnecessary to advert in detail. I may have occasion incidentally to advert to one or two of the more interesting of these; but as a healthy blood contains all that is necessary to the discharge of these functions, it would only complicate our present inquiry to consider their several direct relations to the undigested food as it is introduced to the stomach.

THE FOOD MUST SUPPLY THE WANTS OF RESPIRATION.—NATURE, WANTS, AND PURPOSES OF THIS FUNCTION.

While an animal lives it breathes. It alternately draws in and throws out atmospheric air by means of its lungs.

1. When this air enters, it contains about two gallons of carbonic acid in every 5000; when it escapes from the lungs it contains 2 gallons or upwards in every 100. The proportion is increased from 50 to 100 times. Much carbonic acid, therefore, is given off from the lungs of animals during breathing. In other words, living animals are continually throwing off carbon into the air, since carbonic acid contains about two-sevenths of its weight of solid carbon.

A man of sedentary habits, or whose occupation requires little bodily exertion, may throw off in this way about five ounces of carbon in twenty-four hours—one who takes moderate exercise, about 8 ounces—and one who has to undergo violent bodily exertion, from 12 to 15 ounces. In our climate about one-fifth more is given off in summer than in winter.

If we take the mean quantity respired at 8 ounces, then, to supply this carbon alone, a man must eat 18 ounces of starch and sugar every day.* If he take it in the form of wheaten bread, he will require 1¾ lb. of bread; if in the form of potatoes, about 7½ lbs. of raw potatoes to supply the carbon which escapes through his respiratory organs alone.

When the habits are sedentary, 5 lbs. of potatoes may be sufficient; when violent and continued exercise is taken, 12 to 15 lbs. may be too little. At the same time, it must be observed that when the supply is less, either the quantity of carbon given off will be less also, or the deficiency will be supplied at the expense of the body itself, especially its fatty part. In either case the strength will be impaired, and increased supplies of nourishing food will be required to recruit the exhausted frame.

Other animals give off from their lungs quantities of carbon proportioned to their weights. A cow or a horse, eight or ten times the weight of a man, will give off 4 to 5 lbs. of carbon. The quantity of food required to supply this carbon will be proportionably greater.

I have in the above calculations supposed that the whole of the carbon given off from the lungs is derived from the starch, sugar, or gum of the food. This view is the simplest, and most easily intelligible. It only requires us to suppose that in the system the starch is separated into carbon and water, of which, as we have seen, (p. 43,) it may be represented to consist; and that the former is given or burned off from the lungs in the form of carbonic acid. But many physiologists do not regard the process as being really so very simple. They consider that the carbon given off is partly derived from the gluten or flesh of the food, as well as from the starch or fat—in which case the quantity of starch or sugar in the food, as I have calculated it, need not be so large; and it is certain that where animals live on food which contains no starch or sugar, and but little fat, the gluten or fleshy fibre it contains must yield the carbon which is given off by the lungs.

2. But when the air escapes from the mouth of a breathing animal, it contains much moisture also. It enters comparatively dry, it comes out so moist as readily to deposit dew upon any cold surface, or to form a white mist in a wintry atmosphere. This water is given off by the lungs, along with the carbonic acid, and, like it, is derived from the food, solid or liquid, which has been introduced into the stomach. It may either be part of the water which has been swallowed as such, or the water which may be supposed to

exist in the starch and sugar of the food. Or it may be water formed by the union of the hydrogen of the other kinds of food with the oxygen inhaled by the lungs. It is probably derived in part from each of these sources, in proportions which must vary with many circumstances.

3. But the lungs actually feed the body. The air which enters contains more oxygen than when it returns again from the lungs. The oxygen which disappears equals in bulk very nearly that of the carbonic acid which is evolved. This oxygen enters the lungs, through them into the blood, and with the blood flows on and circulates through the body. It also enters partly into the composition of the tissues, so that it is a real food, and is as necessary to the construction of the human body as the other forms of food which are usually introduced into the stomach. The weight of oxygen taken up by the lungs exceeds considerably that of all the dry solid food which is introduced into the stomach of a healthy man.

4. The purposes served by the oxygen thus introduced into the system are very difficult and complicated. But an incidental circumstance, which accompanies all its operations in the system, is the evolution of heat. From the time the solid digestible food enters the blood till it escapes from the lungs, or in the other excretions, it is continually uniting with oxygen into new forms of combination, and at each change heat is produced or given off. Thus the animal heat is kept up, and thus it is, in a certain sense, correct to say that oxygen is taken in by the lungs for the purpose of giving warmth to the body,—or, more poetically, that the body is a lamp fed with oil from the stomach, and with air from the lungs, which burns with a slow and invisible flame, but which ever does burn while life lasts, and maintains a gentle warmth through all its parts.

THE FOOD MUST REPAIR THE DAILY WASTE OF THE MUSCULAR PARTS AND TISSUES OF THE BODY.

From every part of the growing as well as of the full-grown body, a portion is daily abstracted by natural processes, and rejected either through the lungs and skin, or in the solid and fluid excretions. This proportion is so great that in summer the body loses one-fourteenth, and in winter one-twelfth of its weight daily, when no food is taken. And if food be continuously withheld, the mean duration of life is only fourteen days, and the weight diminishes two-fifths. But the waste or change of material proceeds more rapidly when the animal is well fed, so that the opinion now prevails among physiologists that every twenty or thirty days the greater part of the matter of the human body, when adequately fed, is constantly renewed. This waste of the tissues is more rapid in women than in children, in men than in women, and most of all in men between the ages of 30 and 40. The amount of waste is the measure of life.

The materials for this change must be supplied by the food. And the quantities required must be adapted to the nature, age, and sex of the animal.

The muscles of animals, of which lean beef and mutton are examples, are generally colored by blood; but when washed with water for a length of time, they become quite white, and, with the exception of a little fat, are found to consist of a white fibrous substance, to which the name of *fibrin* has been given by chemists. The clot of the blood consists chiefly of the same substance; while skin, hair, horn, and the organic part of the bones, are composed of varieties of *gelatine*. This latter substance is familiarly known in the form of *glue*, and though it differs in its sensible properties, it is remarkably similar to *fibrin* in its elementary composition, as well as to the white of the egg, (*albumen*,) to the curd of milk, (*casein*) and to the *gluten* of flour. They all contain nitrogen, and the three latter consist of the four organic elementary bodies very nearly in the following proportions:

Carbon,	55
Hydrogen,	7
Nitrogen,	16
Oxygen, with a little sulphur and phosphorus,	22
	100

Gelatine or dry glue contains about 2 per cent. more nitrogen.

The quantity of one or other of these substances removed from the body in 24 hours, either in the perspiration, or in the excretions, amount to *about five ounces*, containing 350 grains of nitrogen; and this waste *at least* must be made up by the gluten, fibrin, or other protein compounds of the food.

In the 1¾ lb. of wheaten bread, supposed in the previous section to be eaten to supply the carbon given off by the lungs, there will be contained also about 3 ounces of *gluten*—a substance nearly identical with *fibrin*, and capable of taking its place in the animal body. Let the other two ounces which are necessary to supply the daily waste of muscle, &c., be made up in beef, of which half a pound contains 2 ounces of dry fibrin, and we have—

	For respiration	For waste of muscle, &c.
1¾ lb. of bread yielding	18 oz. starch and	3 oz. of gluten.
8 oz. of beef yielding	..	2 oz. of fibrin.
Total consumed by respiration and the ordinary waste.	18 oz. starch and 5 oz.	gluten or fibrin.

If, again, the 7½ lbs. of potatoes be eaten, then in these are contained about 2½ ounces of gluten or albumen, so that there remain 2½ ounces to be supplied by beef, eggs, milk, or cheese.

The reader, therefore, will understand why a diet, which will keep up the human strength, is easiest compounded of a mixture of vegetable and animal food. It is not merely that such a mixture is more agreeable to the palate, or even that it is absolutely necessary—for, as already observed, the strength may be fully maintained by vegetable food alone;—it is because, without animal food in one form or another, so large a bulk of the more common varieties of vegetable food requires to be consumed in order to supply the requisite quantity of nitrogen in the form of gluten, albumen, &c. Of ordinary wheaten bread alone, about 3 lbs. daily must be eaten to supply the nitrogen,† and there would then be a considerable waste of carbon in the form of starch, by which the stomach would be overloaded, and which, not being worked up by respiration, would pass off in the excretions. The wants of the body would be equally supplied, and with more ease, by 1¾ lb. of bread, and 4 ounces of cheese.

Oatmeal, again, contains at least one-half more nitrogen than the wheaten flour of our climate and hence 2 lbs. of it will usually go as far

in supplying this portion of the natural waste as 3 lbs. of wheaten flour, and the stomach will be less oppressed. This fact throws much light on the use and value of what has been called the natural food of Scotland.

The stomach and other digestive apparatus of our domestic animals are of larger dimensions, and they are able, therefore, to contain with ease as much vegetable food, of almost any wholesome variety, as will supply them with the quantity of nitrogen they may require. Yet every feeder of stock knows that the addition of a small portion of oil-cake, or of bean-meal, substances rich in nitrogen, will not only fatten an animal more speedily, but will also save a large *bulk* of other kinds of food.

* Since 12 lbs. of starch contain about 5 lbs. of carbon.

† The dry flour being supposed to contain 15 per cent. of dry gluten, (a large proportion,) on which supposition all the above calculations are made.

HARVESTING GRAIN.

It would seem to be almost superfluous at this late day, to urge upon our farmers the importance of cutting grain before it becomes fully ripe; yet notwithstanding the numerous articles which have been written and published on this subject, and the very decided convictions expressed by the most judicious millers and grain dealers in favor of early harvesting—especially where the grain is intended for bread-making or flouring—there are many who still adhere to the old practice, and will by no means allow their crops to be harvested, till the grain is fully ripe. Prejudice is a tyrannical master, and no class of the community appear to be more fully under its control than our agricultural class. In New York, and, indeed, in all the wheat growing States, the practice of cutting this grain before it is dead ripe prevails universally. The exact time when it should be harvested, is now, with the grain-producing part of the community, no longer a matter of doubt or speculation; all being fully convinced that the right period is indicated by that change which the grain experiences when passing from its milky state to that of complete hardness, and when the kernels, without being "*sticky*," are yet sufficiently hard to resist the pressure of the thumb and finger. The farina of the grain being perfected, all that is necessary to render it fit for flouring is the hardening of the mass; and this, it is fully established, may be as well perfected after the straw has been cut as before. Beside, grain that is allowed to stand till it is fully or dead ripe, makes darker flour, and is not so heavy; it scatters in harvesting, and does not command so high a price in our markets or so ready a sale. The straw of grain, when it is cut before the period of perfect maturity, is also much more valuable; it possesses a degree of succulence and saccharine sweetness which renders it a good food for stock; a use to which the straw that has stood in the fields till it has become dead or perfectly matured can never be applied.

I have cut oats when the straw was just turning from its green to its golden hue, and have found the grain as plump and full, and far brighter in color than that which had stood in the field till ripe. The straw of oats, when harvested early, and properly cured, is nearly as valuable for cattle feeding as the best clover hay; and when chaffed and mixed with chopped roots or meal, it makes a feed eagerly partaken of by stock of every description.—*Germantown Telegraph.*

JONATHAN SLOW;

OR, FAITH, HOPE AND CHARITY.

BY LEWIS DELA.

An angler great was Jonathan Slow;
There was not a stream he did not know,
Nor the slightest nook where a fish could go
In a shady spot to hide.
He had such a knack of hooking a worm,
The fish that saw its eloquent squirm,
Had a chance to swim a definite term!
But *twice* the chance to be fried.

Good luck had made of Jonathan Slow
A man of faith; to fish he would go,
If the wind blew high, or the wind blew low;
No matter for rain or shine;
He would hie away to the quiet brook,
And under a tree in some shady nook,
With a smiling face and a saintly look,
Would trust to his hook and line.

'Twas a sultry day, and the skies did lower;
First a gleam of sun, then a soaking shower;
And Jonathan fished hour after hour,
Not caring for heat or rain.
The water poured from his reeking clothes,
Musquitoes had bitten his eyes and nose,
And this was all, for excepting those
He had waited for *bites* in vain.

I always had *faith*, said Jonathan Slow,
And I still have *hope*, for the pious know
That both together the pair must go,
To make us exactly right.
I am thankful, then, that those gifts are mine;
I will teach to others the truth divine;
"Precept upon precept, *line* upon *line*"—
Ah! bless me! there's such a bite!

'Twas a bite indeed; for a trout near by
Had looked on the worm with a wistful eye,
Not dreaming that it was a "gilded lie,"
On account of the hook within.
And hearing then the man with the pole
Thus quoting Scripture, he thought, poor soul,
He'd take the proffered worm in his jowl,
And a savory morsel win.

He bit, and lo! the hook in his gill
But showed that fishes, like mortals, will
Find oft in a "sugar coated pill,"
With a text of Scripture given,
A dose that they had no desire to take;
A *point* they did not intend to make;
A line they struggle in vain to break;
A heart by error riven.

But enough for us that the fish was caught,
For Jonathan started as quick as thought,
And on to the bank a trout he brought
That weighed six pounds or more,
And thinking now, as 'twas almost night,
He would not wait for another bite,
He started home, as well he might,
The trout with pride he bore.

He said to himself, I'm soaked with rain,
But *Faith* and *Hope* did my heart sustain,
Blessed as I was by these sisters twain,
This noble prize I see;
There's a widow on my homeward way,
She shall have the fish, without price or pay,
And I shall have practiced then, to day,
Faith, *Hope* and *Charity*.

MORAL.

We are anglers all, on the shores of fate,
And though often times we may lose our bait,
We must try it again, and calmly wait,
Nor be frightened off by showers.
We may get our fish by the morning light;
We may toil in vain till the shades of night;
We may oft *get bit*—then we may get a bite—
And the best of luck be ours.

There are many streams where fish are caught;
The streams of trade, and the streams of thought;
Wherever the mind or hand has wrought,
'Neath the light and smiles of heaven.
Let us not forget, as our lines we throw,
The *Faith* and *Hope* of Jonathan Slow,
And may part of our treasures here below
To the widowed ones be given.

Portland Argus.

PROPER USE OF EXERCISE.

Those who are able can scarcely take too much exercise of any kind, so that it is kept within the bounds of fatigue. Walking, riding, rowing, fencing, and various games, as fives, tennis, rackets, &c., are all to be recommended to those who are able to enjoy them. Horse exercise is particularly beneficial when it can be borne, partly from the exhilarating effect of rapid motion on the spirits, but principally by the complete exoygenation of the blood it leads to, by the gentle exercise of voluntary inspiration it induces.

Reading aloud and singing, when not carried to excess, are most beneficial exercises, and can be practised by the most infirm. They tend to produce deep inspiration, equal expansion of the lungs, and give free access of air to the smaller divisions of the air passages, thereby decarbonizing the blood more rapidly. The lungs, diaphragm, and walls of the chest, are gently but freely exercised, and the air tubes are freed from obstruction. Like all other organs, those of respiration acquire power by exercise, and that which at first produces breathlessness is soon performed almost unconsciously, and without fatigue. In all these cases and in all gymnastic exercises, care must taken not to hurry the circulation so as to produce either breathlessness or muscular fatigue. —*Spencer Wells on Gout.*

MULES VS. HORSES.—The following estimate in the difference of expense of keeping Mules and Horses, is made by *The Southern Planter*, which from our acquaintance with these animals, we can endorse:

Ten horses will consume each 12 bbls. of corn per annum, say for twenty years, which is equal to 2,400 bbls., worth on an average, $2,50 per barrel,	$6,000
Shoeing ten horses will cost $30 per annum, ($3 each, or more, which we have to pay,) say for twenty years,	600
Cost of feeding on corn and shoeing ten horses for twenty years,	$6,600
Ten mules will consume each 6 bbls. of corn per annum, say for twenty years, which is equal to 1,200 bbls., worth on an average, $2,50 per barrel—*no expense of shoeing*	$3,000
Amount saved in twenty years by mules	$3,600

According to this estimate we save $3,600 in twenty years, or about $200 per annum, by having mules instead of horses; and then the mules are much longer-lived and less liable to disease.

For the New England Farmer.

AGRICULTURAL FAIRS.

MR. EDITOR:—As the season is approaching when "Fairs" will attract and take up the time and attention of farmers, a few words may not be out of place. Having been personally interested in agricultural fairs during the last fifteen years, I can speak with some knowledge and confidence in regard to their management and benefits. These institutions have probably during the last fifteen or twenty years done as much or more to sustain and bring about a renovation in agricultural improvements as any other institution. Still a twelve or fifteen years' practice and experience shows us that there is a great need of reform in their management. The general plan of giving out and awarding premiums has become so dull, and monotonous, that the whole proceedings have come to be a complete "stereotyped" affair, so that anything like variety is out of the question. For instance, there is nothing to be gained or learned in giving out large premiums for heavy, fat animals, or large and heavy field crops, because this was found out and known years ago.

And yet it may be a difficult matter to mark out a path to travel in, in this business. We think that the premiums on farms might be so awarded that a real benefit might come out of it. For instance, instead of giving the premiums to the best cultivated farm, as is usual, let the award be made to the farm that shall show the greatest improvement, say in three or five years in succession. Of course taking into consideration the amount of labor laid out, the number of acres cultivated, the situation of the farm, from markets &c., and the amount of means which the farmer has to do with. In this way, where the improvment were to run from three to five years, the farmer of moderate means might stand as good a chance for the premiums as the more wealthy one. That is to say the award in that case would depend more on skill and management than on money and means, although both should be combined together to ensure success. In a matter of so much importance as the managing and arranging of awards of premiums so that all will be satisfied, it is a difficult matter, and we can only give an outline on one or two points.

Every society must know or learn for themselves about what management is wanted in their locality to suit or ensure success. Our experience in this business has shown us a great variety of men and minds to suit in connexion with agricultural fairs. And when the great law of "self" stands out so prominent it is a matter next to impossible to suit all. For instance we have known a farmer to get disaffected on the award of a premium of a few dollars on an animal, and with this feeling not to come near the society again for years. And if he ever did come back again, he probably came more to grumble and find fault, than for any good purpose. There was a class of farmers too, who would go to the "fair" and pay their dollar, provided they have anything to show for a premium, and that was the last of it with them. There was another class of farmers who might pay their dollar if called upon, and thus avoided the responsibility as they were never known to attend the meetings of the society, or take any special interest in its welfare, whatever. There

was still a very small class of working farmers left who made it a point to attend the meeting of the society in all cases and to do so out of principle, and not from more motives of "self." On this class of men did the society always have to depend for its efficacy in carrying out the work necessary to be done, to make the "Fair" successful. But now, since "Agricultural Fairs" have become so popular, there is not that difficulty existing to such an extent as there was a few years ago. Probably there may be found ten efficient working men who will enter into this field of labor, where there could be one found ten or twelve years ago. Still we are satisfied that the large part of the work for these institutions has got to be done by a few energetic working men. It will be next to impossible to have these institutions so managed but that there will be some grumblers left. And yet there may be such management carried out as to live down all opposition, and finally give a complete triumph.

Yours truly, L. DURAND.

Derby, Ct., June 26, 1854.

REMARKS.—In Middlesex county, and perhaps in others, premiums are awarded on farms strictly in accordance with the views expressed by Mr. DURAND.

For the New England Farmer.

FARMS ENTIRE.

MR. EDITOR:—Your judicious remarks upon the benefits to be derived, from the notice of *farms entire*, *farms* viewed by committees of agricultural Societies, instead of particular crops, (frequently the result of forced culture,) brings to mind the advice of that model of Massachusetts farmers, TIMOTHY PICKERING, in his address to the State Society, in Oct., 1822, when he was more than 80 years old. Says he, speaking of the manner of giving premiums, "One pleasing result has appeared—that by ample manuring and good culture, the usual crops of the same plants may be doubled and even trebled. But is it necessary to continue premiums of this kind? May not now the entire management of farms rather claim attention? Instead of numerous small premiums disposed on a variety of subjects, might they not be advantageously concentrated for the purpose here intimated—the cleanest, most economical, the most productive management of farms? *For it must be such a general improvement of the entire farms that will constitute the farmer's permanent prosperity.*"

* * * "Perhaps it may not be difficult for the Trustees of the State Society (*the State Board of Agriculture* he would have said in these days) to prescribe some general principles and rules of proceeding, that may produce uniformity in the reports of county committees acting under their direction."

There is so much simplicity, clearness and wisdom, in the instructions of this venerable man; that I love to dwell upon them. I delight in refreshing my mind with this perusal. As your paper has the reputation of being eminently conservative, I thought some of your young readers would be instructed by the quotation;—and I know your old readers will not be offended by it.

July 3, 1854. *.

THE PROPER TIME OF CUTTING GRAIN.

In the 2d volume of "British Husbandry," p. 136—7, it is said,—"The question has been for some time agitated, regarding the state of ripeness in which grain should be cut; and it has been recommended, as a general rule of practice, to cut down the crops before the uppermost grains can be shaken out. * * * * Taking all things into consideration, it seems to be the most prudent plan to have the grain cut before it is fully ripe; but in this a medium course should be adopted, for although grain, if allowed to become too ripe, assumes a dull, dusky hue in the sample, yet if not ripened enough, shrivels in the drying."

In the "Reports on Select Farms," it is said in reference to the management of the Scoresby farm, superintended by Mr. C. Howard, that

"Wheat ought never to be allowed to remain uncut until it is fully ripe. Experiments, easily made, will prove to every cultivator of it, that by permitting it to stand until the straw has lost its succulency, he gains nothing in plumpness or bulk of grain, *but loses much in color and fineness of skin;* besides which, he incurs the risk of shelling by high winds, or by its being cut under the influence of a burning sun. When fully ripened by standing in the shock, no dry hour should be lost in getting it well secured."

LOUDON, the celebrated English writer, whose views and opinions upon all topics connected with agriculture are singularly logical and correct, says on this subject:—

"In harvesting wheat, the best farmers, both in Britain and on the Continent, agree, that it ought to be cut before it becomes dead ripe. When this is the case the loss is considerable, both in the field and in the stack yard; and the grain, according to Von Thaer, produces an inferior flour."

CADET DE VAUX, the French author of a valuable and erudite treatise on wheat, remarks:—

"Corn (wheat) cut eight days before the usual time, has the grain fuller, larger, finer and better calculated to resist the attacks of the weevil. An equal quantity of the grain thus reaped, with grain reaped at maturity, gave more bread, and of a better quality. The proper time for reaping, is when the grain, on being pressed between the thumb and finger, has a doughy appearance, like a crumb of bread just hot from the oven."

The philosophy of the usage recommended by the writers above quoted, is not immediately apparent to every one. The question, indeed, has frequently been asked in our hearing—"Will any valuable accessions be made to the grain if the wheat plant be detached from the roots before the former has arrived at maturity?" That is, to resolve the query into a somewhat more familiar form—"Will the wheat, or other grain, so cut, receive from the immature stalk, any assistance in filling and matur-

ing, and will it, if cut when in the milk, ripen and be as sound and nutritious as if allowed to remain till fully ripe?"

To the question thus demanded we have no hesitation in replying, affirmatively. We think that experience has plainly demonstrated, that many important accessions are made to Indian corn when the plant is cut up and shocked at a period of its development when there is but little sound corn in the field; in other words, when the ears are green and immature. Most of the southern corn brought to our markets is cut and shocked in this manner. This becomes necessary with the planter to enable him to get in his wheat crop. The corn is cut early, placed in large shocks, often on the furrows where it grew, and frequently remains in that condition for months; yet it comes to us hard, sweet and sound.

We have seen oats cut when there was not a ripe or yellow head in the field, and on threshing, and comparing the grain with that from a field adjoining, in which the oats had stood till fully ripe, have found the former superior to the latter, not only in point of weight, but in brightness also. The philosophy of this, a late writer explains as follows:—

"After the formation of the ear has commenced the berry or the kernel is the point to which all the efforts of nature are directed; and this is continued until the process is complete,—the juices desiccated and rendered incapable of absorption,—or the supply of nutritive matter exhausted. As the juices become thicker in consequence of the non-supply of sap from the root of the plant, the deposition becomes more active and rapid in the grain, so long as it moves at all, or till the kernel is filled; which will in part account for the fact that grain severed from the root, after the proper supply of nutriment for the kernel has been elaborated in the stalk, ripens so much quicker than it would if left attached to the root."

There is another very important advantage secured by cutting grain before it becomes "dead ripe." Most farmers find the straw of their cereal crops, of value as fodder for stock; and this, when cut green, is much more nutritious than if left until all its nutritive juices are exhausted, and the fibre rendered hard by becoming mature in the field.

It is supposed by some good cultivators, that wheat intended for seed, should be allowed to ripen a little more than that intended for grinding.

☞ The only brother of Henry Clay was a cabinet-maker; Webster, the giant of statesmen, and the ornament of his country, had a brother-in-law who never learned to read until after completing the period of three-score-and-ten, and a majority of the first statesmen of the present time are the energetic and ambitious sons of "poor but honest parents."—*Washington Union.*

NATIONAL CATTLE SHOW

OF THE UNITED STATES AGRICULTURAL SOCIETY.

[CIRCULAR.]

Springfield, Ohio, May 1, 1854.

Dear Sir,—The 25th, 26th and 27th days of October next have been fixed by the United States Agricultural Society for holding its first Cattle Convention, in the City of Springfield, Clark county, Ohio.

Six thousand dollars will be distributed in premiums for the best stock of the various breeds of Cattle subject to competition without territorial limit.

The Executive Committee of the United States Agricultural Society have been careful to select a time that will not, so far as they are aware, conflict with any of the State Fairs or other meetings of general interest; and after due deliberation have selected this place as the most eligible for holding the Cattle Fair. Springfield is centrally located as regards the cattle region; it is most convenient of access by railroad from almost every point of the compass. The means for acommodating, at very moderate charges, a large number of persons, are ample. Private houses will be opened for the reception of guests. There are also eighteen cities and towns within reach by an hour's ride on the railroads, on which extra trains will be placed to accommodate such as wish to go elsewhere for lodgings.

About twenty acres of ground have been enclosed, and more than three hundred stalls will be prepared for the shelter of cattle during the convention.

It is expected that very liberal arrangements will be made by all the railroad companies, both for the transportation of cattle and the conveyance of passengers to and from the Fair.

We respectfully solicit your attendance on the occasion, and that you will furnish us with such aid as you may feel disposed in making known the objects, time, and place of the Convention; and if you have improved stock of cattle, of any description, we cordially invite you to enter them for competition.

A list of premiums and copy of regulations will shortly be published.

Very respectfully, yours,

J. T. Warder,
C. M. Clark,
C. Robins,
} Local Executive Committee.

CHEESE AS A DIGESTER.

As a digester, as some not appropriately call it, cheese—that which is decayed and mouldy being preferred by connoisseurs—is often eaten after dinner. The action which experience seems to have proved it to possess, in aiding the digestion of what has previously been eaten, is both curious and interesting, and has had some light thrown upon it by recent chemical research. When the curd of milk is exposed to the air in a moist state, for a few days, at a moderate temperature, it begins gradually to decay, to emit a disagreeable odor, and to ferment. When in this state, it possesses the property, in certain circumstances, of inducing a species of chemical change and fermentation in other moist substances with which it is mixed, or is brought into contact. It acts after the same man-

ner as sour leaven does when mixed with sweet dough.

Now, old and partially decayed cheese acts in a similar way when introduced into the stomach. It causes chemical changes gradually to commence, among the particles of the food which has previously been eaten, and thus facilitates the dissolution which necessarily precedes digestion. It is only some kinds of cheese, however, which will effect this purpose. Those are generally considered the best in which some kind of cheese mould has established itself. Hence the mere eating of a morsel of cheese after dinner does not necessarily promote digestion. If too new or of improper quality, it will only add to the quantity of food with which the stomach is already overloaded, and will have to await its turn for digestion by the ordinary process.—*Chemistry of Common Life.*

For the New England Farmer

CHAPTER ON HUSBANDRY.

NUMBER I.

Mr. Editor:—Will you indulge me with a few hints to the live "lords of creation."

1st. Every farmer should practice the art of *mechanics* to a certain extent, so that he can lay a *shingle*, build a *pig-pen*, mend a harness or his farming tools; keeping all these things in order, so that rainy days in summer, and snowy days in winter, are occupied in these odd and end jobs which draw a little on his genius.

2nd. Take a small corner of a building, which can always be spared—with his bench and all the necessary tools to do this work, and thus he saves many dollars every year without the vexation of hearing repeatedly—"O, you shall have it to-morrow and no mistake."

2d. Have one place for your tools, and *no neglect in placing them.* Polish your shovels, forks, scythes and hoes when you hang them up. Rust corrupts and weakens. Did you never see a plow that had taken its cheerless winter quarters in the frozen furrow, waiting for a spring thaw? and the "bran-new" scythe left to dangle in the crotch of the old farm tree year after year? not unusual sights these. Drive *pins*, to hang your yokes upon, nail strips of board from joist to joist to hang the chains upon—make a rack over head for your pitchforks, rakes, turning-sticks, &c.

4th. The barn-cellar is the *bank*, and the best outlay of capital,—never return home with an empty cart, the return cargo will enrich your farm when placed in the barn cellar. One load of such manure, well mixed in the cellar, is worth two loads of out door, evaporated manure, it being saturated with urine, and very strong.

6th. Plow deep, regardless of the "yellow dirt," (which was formerly the caution to the boys) and the roots will deepen in the soil, and derive a benefit much greater, than if struggling near the surface, will be better protected against drought, and the soil less liable to be blown away, as much of it is, by drying blasts.

7th. Use the *long spade* in your vegetable garden. Tap roots are never timid about driving deep.

8th. Hay is your staple commodity, make it in the most compact manner possible. All the aroma that sweetens the air, is so much loss to the value of the hay. To mow, spread, and let it lie and take one night's dew, and prepare to get it in the next day without having been cocked up, is a positive loss, of nearly a quarter part of its value.

9th. Grain should be harvested as soon as the straw has begun to deaden and the berry has passed the milk. Oats and barley straw will be the better for fodder, and wheat or rye straw loses nothing—beside, you scatter no grain in gathering.

Mr. Editor, my subject is far from being exhausted. Should it meet your approval, I shall appear to you again. Yours truly, H. P.

Brooklyn, June 24, 1854.

Remarks.—Excellent advice, the whole of it. How any farmer can get along without a bench and a few tools, we cannot imagine.

In this age of progress and improvement, when farmers visit and criticize the operations of each other so much—when line upon line and precept upon precept are so constantly given in addresses, lectures, and agricultural papers, upon neatness and order in the management of the farm, fully one-half of all engaged in the art, lose the interest of some two or three hundred dollars annually *in the neglect of their tools.*

SUGAR IN THE LIVING ANIMAL.

One of the greatest discoveries of our day, says a French paper, is that made by Claude Bernard, of the constant formation of sugar in the liver of animals. Feed an animal how you will—with food containing saccharine matters, and with food containing no trace of them, you will always find the animal has, from the blood, formed sugar for itself. This sugar which is secreted by the liver, is, like all secretions, under the influence of the nervous system; you have only to cut what are called the pneumogastric nerves, and in a few hours all the sugar vanishes. The amount of sugar thus formed in every healthy animal, may be increased by certain influences, and then it gives rise to, or is the indication of various diseases. In one disease the quantity is so great, that M. Thenard extracted fifteen killogrammes of sugar—something like thirty pounds—from the secretion of one patient; real sugar, too, and of irreproachable taste, according to Boussingault, who tasted it. But now attend to this; what nature does in disease, man can do in the terrible theatre of experiment. Claude Bernard has proved that there is a very small region of the spinal column—by anatomists styled *medulla oblongata*—the wounding of which—between the origin of the pneumogastric and acoustic nerves—provokes this increased secretion of sugar, and if, with a sharp instrument you wound a dog or rabbit, in this place, you will find that, in a little while, sugar has accumulated to an immense extent in the blood and other liquids.

Gravelling Walks.—How few gravelled walks do we find on which a lady with a thin shoe can walk. The gravel is loose and coarse and gives at the pressure of the foot. If those who are putting on gravel would mix one-twelfth of water lime, and wet it up as for mortar, loosen the dirt slightly in the walk, and then spread on the

mixture about two or three inches deep, round it in the centre, beat it lightly with the back of the spade, and then leave it for two days without stepping on it, they would find a walk firm and solid to the foot and pleasant to walk upon.—*Ohio Farmer.*

For the New England Farmer.

GUANO.

Some months since, while absent from home, a clergyman in Massachusetts wrote me a very pleasant letter of inquiry on the subject of guano, its uses and effects, offering in a manner worthy of an upright man, to compensate me for the time and trouble of answering him at length. Upon returning home after an absence of quite a number of weeks, I found so large a number of letters on various subjects awaiting my attention, that I could not answer them all without considerable delay. The one particularly referred to, got mislaid, and I have never since been able to find it. As the gentleman was a stranger to me, I have forgotten his name, and the town in which he resides, and cannot therefore answer him, as I should have done before this time, had not his letter been lost.

Perhaps he is a reader of the *N. E. Farmer*. If so, should the editor of the *Farmer*, who, with the publishers, has ever been very obliging, allow me to answer his inquiries as well as I can through that paper, I shall be glad to learn that my unknown friend receives it.

In the first place I will say that I have proved guano insufficient as a manure, upon some soils, to mature any fair crop of seed-bearing plants. I have tried several experiments for the purpose of determining this beyond question, as I have also with preparations of superphosphate of lime. Where the soil contains little or no carbonaceous matter, or little or none in such a state as to be immediately taken up by growing plants, these plants may produce the blade, or even the ear, but not the full corn in the ear.

I planted a piece of ground for experiment, where all other circumstances would be fair for the growth of Indian corn, except the manure supplied. There was but little old vegetable matter in the soil. I manured it generously with the improved superphosphate of lime. It came up well, and in color and appearance was very beautiful. As soon as it came to caring, the evidence of a failure became distinct. Not an ear of it filled out; and it did not produce equal to five bushels per acre. I tried another piece with a mixture of equal quantities of guano and superphospate, and the product of seed was but a little better Guano alone was stlll a little better, when applied in equally sufficient quantity.

Upon a piece of ground where I planted corn for fodder, I applied a light dressing of stable manure, spread and plowed in. I sowed the corn in drills, in most of which was superphosphate or guano. To prove the value of the superphosphate for such a purpose I left some of it with none in the drills. With a growth of ten weeks duration, I cut up the corn from an equal surface of the ground where the superphosphate was applied and where there was none, and found the weight of that where the superphosphate was applied to be equal to thirteen and a half times the weight of the other. The effect of guano, for that purpose, and on that piece of ground, was somewhat less. It proved, however, very satisfactory and valuable.

It is, in my mind, settled beyond a question, that for the production of the mere blade, or stalk, these manures are very valuable. But where *seed* is to be produced, there is requisite a large amount also of carbonaceous food for the plant in the soil.

In growing Indian corn, after supplying the soil with vegetable or carbonaceous matter, I have found the best effect from guano applied in the hill, at the rate of from one to two hundred pounds to the acre. After scattering it in the hill, it should be covered from one to two inches deep, according to the quantity used, and the state of the ground.. A mixture of equal quantities of guano and superphosphate I have found better than clear guano.

For corn, potatoes, carrots, tomatoes, celery and onions, I have found guano very valuable. These all require a large supply of ammonia, I think. It is especially so with tomatoes, celery, carrots and onions.

Cabbages and turnips have an aversion to large quantities of ammonia. It spoils the roots, and a moderate quantity only of guano can be used upon them with safety. Superphosphate is very valuable for cabbages, turnips and beets.

Phosphate of lime and guano, I have no doubt are, together, of great value for wheat.

"Is guano a lasting manure?" For some purposes guano will prove a lasting manure. For onion-fields, it must, I think, prove a lasting manure. The onion, while it requires much ammonia in the soil, in order to its growth, takes much also from the atmosphere and the rains. When the bulb becomes mature, it appears to shed its long fibrous roots, and with them, a very heavy charge of ammonia, into the soil. For this reason, doubtless, it has long been observed that they do better after years of culture upon the same soil. It is for this reason, I presume, that hog-manure, animal substances, &c., have so beneficial an effect upon onions. Peruvian guano must, I think, for such a purpose, prove a lasting manure.

For corn, potatoes, wheat, &c., its action must necessarily be different. The action of ammonia is as powerful as to cut the surface of glass. I am very sure that it decomposes the most solid feldspar, and remains in combination with its alumina. Active in the soil, it produces, directly or indirectly, a more powerful growth of plants. The alkalies of the guano hasten the decomposition of whatever old vegetable matter there is in the soil, which by the increased growth of the crop hastens the exhaustion of the soil. Consequently a liberal and continued application of guano alone would in a short time reduce most of our soils to an unproducing state.

Guano is a very valuable manure; but it may be so used as to produce the worst of consequences; even to render soils barren and worthless.

If it is to be applied as a top-dressing to old mowing fields, it will cause them to become barren in a few years, unless it is composted with much old vegetable matter, in the form of meadow muck, decomposed sawdust, or something of the kind. If I used guano alone as a top dressing for mowing, I should feel the necessity of follow-

ing the next year with a liberal dressing of old vegetable manures, with perhaps lime and salt, or with wood ashes instead of lime.

I am fully of opinion that guano is a very valuable manure, but every intelligent clergyman certainly knows that the richest and best gifts and mercies are liable to be turned into something else than blessings, by erroneous use and application.

I shall not be surprised if the importance of guano as a top dressing in orchards, where no crop but the fruit crop is to be taken off, or its use in waste lands, should engage the attention of cultivators before long.

I expect that thousands will misapply, and then altogether condemn the use of guano, superphosphate of lime, &c. But if we can but understand how to use those things which are within our reach, it will be well for us.

Mason, N. H. A. G. COMINGS.

For the New England Farmer.

A FERTILIZER, ALMOST EQUAL TO GUANO.

By the politeness of a friend, I yesterday called on R. S. FAY, Esq., of Lynn, at his romantic residence, on the western borders of Salem. Here, in the centre of a tract of *four hundred acres*, on the verge of a beautiful lake of sixty acres, on a soil as rough and romantic as any other to be found, Mr. F. passes his time, experimenting for the benefit of himself and his neighbors.

Mr. FAY has probably done more to illustrate the practability of growing forest trees of various kinds, than any other man in eastern Massachusetts. But my purpose, in taking pen in hand, at this time, is to speak of the fertilizing influences of his flock of sheep, upon the meadows, where he cuts his hay. South of his residence are *twenty acres*, or more, of mowing land, reclaimed from an alder swamp, within the last dozen years, on which is now growing a crop of two tons to an acre, on an average. Several spots of a quarter of an acre were pointed out, where his flock of 300 sheep had been kept for several days together, not exceeding a week on any one spot, where, in consequence of the sheep having been there, the crop was doubled. Mr. F. showed us *a wire fence, moveable*, costing only $1,50 per rod, that he used to confine his sheep—and said it would be easy to fertilize *ten acres* in a season, by his flock, by the use of the fence. I have often heard of the fertilizing qualities of the droppings of sheep, but never before have seen them so distinctly and advantageously illustrated.

In his well arranged stone stable, I saw his apparatus for dropping and steaming his corn fodder, and other feed given to his stock. Thus prepared, the coarsest parts are readily eaten. In all the operations upon the place, there is a marked combination of utility and economy;—and a modesty in speaking of them worthy of all commendation.

I have no where seen, more vigorous fields of Indian corn, than on of the gravelly knolls on this farm. The man who has the faculty to grow such crops—on land time out of mind known as *seldom good pasture*, is certainly entitled to some credit. I observed large heaps of mud taken from his swamps, and parcels of bone, collected from the slaughtering establishments of the vicinity, and several casks of plaster laying around;—and I have a strong suspicion, that the healthy aspect of his corn fields, had some connection with a combination of materials of this character. When properly combined and judiciously applied to a soil, deeply stirred and thoroughly pulverized, be it never so forbidding, there need be no fear of the crop;—even though the signs of rain fail, to a great extent, as they have done for a fortnight past.

I have thus briefly sketched the impression of the moment, by way of remembrance of what I saw;—and in the hope that others will be equally well pleased and instructed by a view of the same—as I feel confident, nothing will give the courteous proprietor more pleasure, than to afford such instruction.

July 1, 1854.

For the New England Farmer.

THE FARMER'S TACT IN SELLING.

FRIEND BROWN:—When your correspondent, "Agricola," said that "selling is one essential part of farming, and that without a tact at this, a man is no farmer at all," he hit a nail on the head, which I have often wondered has not been hammered at more. I consider the aforesaid tact, the one thing needful—with it, the farmer is almost sure to go ahead and prosper, without it, he is about as sure to fail in a business point of view, though he have ever so much knowledge of, and love for, the cultivation of the soil. For most of his surplus produce the farmer must seek a market; he can't always stay at home and have the buyer seek him, if he does, he will make a poor business of it.

The New England farmer raises a little, and sells a little, of many different things; his live stock is continually passing through his hands; in fact, he has about as many bargains to make in a year as a country store-keeper; like him, too, he is often called upon to give credit and receive in payment a notification that Mr. Butcher A., or boarding-house keeper B., are insolvent and the creditors will meet, &c.

For a young man of small capital to reach in early life and maintain the position which all young men aspire to, that of an independent head of a family, by farming, requires a business capacity, besides a proper knowledge of farming, which few possess. This, I think, is the true reason why so many young men quit the farm for the counter, or the mechanic's shop; not from any dislike of the position, or work of a farmer, but a conscious inability to fill the place with satisfaction and benefit to themselves. They see that the farmers who have started with small means and succeeded, as every young man wants to succeed, have been men of superior talent and energy, or have been slaves to their farm, working as no man should, and as few men can work. Your lively associate editor advises, "Stick to the Farm," and good advice it is; perhaps he might have dealt a little more justly with those who do not "stick."

Our literary, lyceum lecturers, also, take occasion to fling at "counter-jumpers" from the farm. All of not much avail, I reckon—those will continue to leave the farm who should, and, perhaps, a few others who should not. I have before now been tempted to say a word on this mat-

ter, and perhaps the humble position I take will mollify the wrath of those who still take up the shovel and the hoe against the deserters.

Andover, Mass. One of 'em.

THE SOIL.

Either of the original earths, so called, in a state of isolation, constitute a sterile soil. The productive power of all cultivated lands depends almost exclusively upon the relative proportions in which the primitive earths are mixed in their composition. It is to the almost infinite variety of these proportions, that we are to refer the various descriptions of soil which are met with on the earth's surface. The more fertile a soil is, as a general thing, the less will be its specific gravity. Many curious experiments have been instituted in order to ascertain accurately, the reliability of this as a criterion, and the following by W. Rham are perhaps as authentic as any with which the public have as yet been favored. A good quality of garden mould consists of

Clay	52.4
Silicious sand	36.5
Calcareous sand	1.8
Carbonate of lime	2.0
Organic matter	7.3

was found to possess a specific gravity of 2.332.

A good loam consisting of

Clay	51.2
Silicious sand	42.7
Calcareous sand	0.4
Carbonate of lime	2.3
Organic matter	3.4

had a specific gravity of 2.401; and a soil of poorer quality, consisting of

Silicious sand	64.0
Clay	32.3
Calcareous sand	1.2
Carbonate of lime	1.2
Organic matter	1.3

had a specific gravity of 2.526.

M. Chaptal, in some very valuable observations on soil, says:—"Land in which there is a preponderance of lime, (carbonate of lime is here doubtless meant,) is porous, light, easily permeable by water, can be tilled without difficulty, forms a paste which possesses little or no consistence, and is not sensibly altered by the action of fire. The air easily penetrates calcareous earth, and is there capable of vivifying the germs which it contains to a certain depth; but water, which penetrates it without resistance, escapes again with equal facility. Land, of this nature, is alternately swamped and parched; and those plants which are not strong enough to withstand such variations, languish or perish in a soil of this nature." Von Thaer says:—"When a soil contains too much lime, that substance is apt to become prejudicial. This is especially the case in districts where a chalky formation exists.

1. Because it does not retain moisture, and has even a greater disposition than sand to suffer it to evaporate; consequently, during warm, dry weather, it is totally parched, and reduced to dust.

2. Because it consumes manure and humus very rapidly; accelerates the passage of these substances to the plants, and thus hastens their vegetation at first; and does not reserve any nutrition for their support during the latter stages of their development; on which account they fall off and perish before they arrive at maturity."

According to some writers, calcareous soils, which present, on analysis, forty parts in one hundred of lime, thirty-six of sand, and a liberal percentage of aluminous or argillaceous matter, is wrought with greater difficulty, after being saturated by a heavy fall of rain, than argillaceous soils, so called, are. In a state of ordinary dryness or freedom from excessive moisture, this difficulty is essentially diminished, however, and the details of husbandry are readily performed. As to *humus*, it may, perhaps, be considered as a good rule to regard the fertility of soils as increasing in proportion to the quantity of this article—in a soluble state, which it contains. Perhaps—if we may rely upon the data furnished by the best analytical chemists—two parts in a hundred of *humus* by weight, as the average quantity in argillaceous soils, and one and a half parts as the average of the same in sandy vegetable soils.

Results differ widely, however, in the analytical examination of the several descriptions of soil; but if we take a medium quality of the surface soil from a field, evaporate the water, and then subject it to white heat, after having weighed it subsequent to the evaporation, the diminution of weight occasioned by its exposure to the action of heat, will indicate the per centum of humus contained in it. This process may be regarded as a sure test, and is so simple in its manipulatory details, that any person can work it out with the utmost ease.

It is often desirable, on many practical accounts, to possess accurate and reliable information on this point. A true knowledge of the specific productive energy or fertility of soils, must ever be regarded as a most important consideration in farming; and, indeed, the more we know of the chemical character, and capacities of the soil for production, the better shall we be enabled to farm it judiciously, and the greater will be our profits from our investments of labor and manure. The action of manure on light, sandy soils, is to increase its cohesibility, its capacity for absorbing and retaining moisture, and to render it more compressible. Applied in sufficient quantity, it communicates unctuosity, renders it less likely to be injuriously affected by the sudden atmospheric alternations of wet and dry. It also constitutes a better medium for the roots of vegetables, which, in a light and excessively porous soil, do not take hold with sufficient firmness, and are often seriously injurred by undue experiments to light and air, in the interstices which exist so numerously

in the vegetable structure, and even in the subsoil, generally, upon which it reposes. Any vegetable matter, of a decomposable nature, is by the action of the soil, capable of becoming "*humus*," or food for plants.

WHEAT A PURIFIER OF THE ATMOSPHERE.

The following extract from a paper on the "Comparative Fattening Properties of the various Breeds of Sheep," by JOHN B. LAWES, Esq., of Rothamsted, England, contains some new views on an important subject which will be read with interest:

"Experiments conducted upon this farm for the purpose of ascertaining how much nitrogen is converted into the flesh of the animal, prove that 100 lbs. increase live weight does not contain more than 2 to 3 lbs. The nitrogen, which is taken by the animal to make the increase, amounting from 17 up to 47 lbs., is converted, in its passage through the animal, into ammonia, every 14 lbs. forming 17 of ammonia, this ammonia being again employed in producing fresh vegetable matter; and here we obtain a glimpse of one of those beautiful laws by which the purity of the air is preserved. It has been calculated that at the present time above 7,000,000 tons of oxygen gas are converted into carbonic acid gas daily by the population, the animals, and the various processes of combustion. As all these processes have been increasing daily since man was created, the atmosphere would become deteriorated, unless some compensation existed. Philosophers have shown us that it is the office of vegetation to restore the balance, that plants possess the wonderful property of separating carbon from its combination with oxygen gas, and restoring the latter in its pure state to the atmosphere, and they point to the great tracts of forest land in various parts of the world as the great sources of oxygen gas. To a thoughtful person it must, however, occur, that if the forests are the great sources from which oxygen gas is derived, two processes are going on at the same time, both of which tend to one result. The destruction of forests naturally and inevitably follows the increase of man and animals upon the earth; while, therefore, every day is adding to the amount of carbonic acid thrown into the atmosphere, the forests, which are supposed to be the great sources of oxygen gas, are becoming less and less in extent. The quantity of carbon fixed by vegetation on an acre of forest land has been ascertained by various chemists, and as they agree pretty well in the estimation, we may conclude that it will not be far from the truth to fix it at 1200 to 1500 lbs.

"The experiments upon the growth of wheat for eleven successive years, show that from 2500 to 3000 lbs. of carbon can be produced upon an acre by the supply of mineral salts and ammonia, substances which contain not a particle of carbon in their composition. However contradictory it may appear, at first sight, to suppose that the forest trees towering towards the sky, and exposing an immeasurable surface of leaves to catch every passing breath of air, should extract less carbon, and purify less air than the humble wheat plant, yet such is undoubtedly the case, and we must acknowledge the infinite wisdom of the Almighty, who in the cereal crops not only provides food for man, but that man must, in producing that food, at the same time purify the air which he is hourly deteriorating. In the United States the same natural laws must produce the same effects they have in Great Britain. Forests will disappear, and, as the population increases, land will become more valuable, and as a necessary consequence it will be better cultivated—instead of 14 or 16 bushels per acre, double that produce will be obtained, and consequently the plants on the same space of ground will purify a larger quantity of air. The greater portion of the carbon consumed by animals is either converted into carbonic acid by respiration, or into food for man, who also converts it into carbonic acid; the residue, consisting principally of salts of ammonia and mineral matter, are restored to the soil, and by their influence enable the plants to decompose fresh portions of carbonic acid!"

THE WHEAT CROP OF CALIFORNIA.

One of the most gratifying indications of the permanent prosperity of California, is the great and rapid increase of her agricultural resources. Two years ago we were known only as a mining country, and the impression was, that, but for our mineral resources, the State would be valueless. This idea has been not only proved erroneous, but the fact has been fully established that this is one, or can be made one of the best agricultural States in the Union. Nowhere can wheat, oats, barley and most kinds of vegetables, be grown with less labor and expense than here. The soil is fertile and the climate unequaled. What is called the wet season, during which crops grow without irrigation, is much longer than what is called the growing season in the Eastern States. In addition to this, prices in mining countries are generally higher than in any other. It is true, that we have no foreign market for our surplus agricultural products, and whenever the market becomes glutted with an article that will not bear long transportation, (as is now the case with potatoes,) the article becomes nearly or quite valueless. But when the agricultural interests and the general business of the country, become more thoroughly settled, such extremes in prices as we have witnessed will not be likely to occur. Because potatoes are a dollar a pound this year, farmers will not again plant nothing but potatoes, and thereby render the crop not worth carrying to market. That wholesome monitor, experience, will learn them to divide crops so as to meet the wants of the people. By pursuing this course, we have no doubt but farming will prove a more remunerative and reliable business in California, than it is in any other State in the Union.

It is now estimated that sufficient wheat will be grown in California to supply the entire demand until the next year's crop. If this be true, the quantity of flour now on hand can hardly be expected to advance in price, nor can it, with what shipments have been and probably will be made, be expected that flour will be extravagantly high during the present year. While we like to see every man fairly and handsomely rewarded for his capital and labor, we dislike to see forestalling in

the necessaries of life, thereby compelling the many to pay exorbitant prices for the benefit of a few. Every person must see how much better it is that steady and remunerative prices should rule, and that the money should be paid to our own people, than it is for fluctuating prices to prevail, and the money sent out in the country. We trust that we have reached a point where the necessity of relying upon others for flour has ceased.—*California Exchange.*

For the New England Farmer.

AGRICULTURE IN SCHOOLS.

Mr. Editor:—Among all the schools that so abound in our land, is it not strange that we have no well supported agricultural school? Law and medicine, theology, and science, have abundant provision made for them, but the business upon which all the rest depend, and which employs the vast majority of our people, has no school. Some have been started and have failed. Our agricultural departments in our colleges accomplish but little, and in our scientific schools, less. Either agriculture does not need schools, or the right kind have not yet been devised.

F rming is an art, and the demand is for practical instruction in the art. Most have attempted to make a science of it, and teach only that. The sciences lie at the basis of the art, as they do at the basis of medicine, and much in the same way.

Besides, such schools ought not to be connected with colleges. There can at present be little sympathy between the students; and the student of Latin and Greek looks with disdain on farming. Medical schools do not flourish as well when connected with colleges as when by themselves, for the same reasons. An agricultural school should be by itself.

Young men cannot yet spend years in going through courses of practical chemistry. They will not use it on the farm; nor can the medical student. Both want *facts* and *principles* that they can apply every day.

Nor can they spend years on a model farm, though this would be of much more benefit. Such a course might be necessary for city-bred young men, who should take a fancy to farming, and who, with the good lady, might suppose a man could plow with a cart in default of a plow; but young men who have the good fortune to be born and brought up on a farm, as I have had, and a good fortune I deem it, too, and who have been made as familiar with the hoe and rake as with A, B, C, feel as if they could apply facts and principles if they had them.

And now what schools do they want? *Perhaps* just such schools as medical men wanted fifty years ago, and which they now have. A course of lectures from practical men, in a practical form, on the principles and facts of the sciences which lie at the basis of farming. Facts and principles which the young man could gather up and carry home and apply to his own farm, just as the physician would apply what he learned to his patients. Such a course *might* (might, remember) consist lectures upon chemistry in its bearings on farming—entomology and botany, do., animal and vegetable physiology, do., the diseases of domestic animals—just think how they are abused when sick!—or practical agriculture. Now if these could be put up in the course of two or three months, would it not pay a young farmer to obtain them?

Now it is doubtful whether such a plan can be adopted at once. But a beginning ought to be made.

We have an Academy built on a large scale with the necessary apparatus for a part of this course. It was got up by the farmers in hopes sometime to reap some benefit from it for their business. There is some disposition on the part of the founders of it, to press the matter forward, and by way for a beginning, we shall secure as full a course on the above topics as we can during the ensuing fall term, beginning the last part of August. A course of lectures covering a part of the ground will be given by the principal at any rate, and if encouragement enough is given an attempt will be made to obtain the assistance of other men of skill in the several departments. If this effort is properly encouraged, preparation will be made for a fuller course in the spring. The course this fall will be in connection with the usual academic course.

Now, Mr. Editor, we feel like claiming a little encouragement from farmers for this undertaking. We also think we can invite farmers, and those who are not, whether they wish to make their children farmers or not, to patronize our school, since we have everything—a beautiful, (and if you have been here,) you know how beautiful and quiet a village, new, large and commodious buildings, ample board of teachers and thorough instruction, and at as low price as can be found elsewhere.

Yours truly,

I. N. Nutting, A. M., M. D.

Orford, N. H., July 5, 1854.

Remarks.—We have been at Orford, and found the village among the pleasantest in New Hampshire. It is encouraging to find here and there a proper appreciation of the wants of the great art, and a determination to supply them. We hope your exertions will be crowned with the most abundant success.

For the New England Farmer.

MAKING AND PRESERVING BUTTER.

Every thing should be kept clean that has anything to do about making butter. The cows (if tied in the barn) may be put on a floor over a cellar. The floor should have three planks from ten inches to a foot wide, so laid, that the middle plank may be where the cow's hind feet naturally stand. These plank should be fastened one inch apart so that all the liquid may pass down through the cracks into the cellar. That is, just a single floor with cracks wide enough to let the water all pass directly into the cellar. Then clean the floor in the morning, and (in the summer) it will be dry at night. I have practised this a number of years, and my cows are cleaner than when they used to lie in the yard. With clean pails take the milk, set it in pans in a cool airy place where it can stand forty-eight hours without being sour. Then take off the cream, and when a sufficient quantity is gathered, churn it, which should be as often as once a week. When it is brought to butter, draw off the butter-milk; then pour cold water with the butter, and stir the

butter in the water with the churn or hand, till it is well washed; draw off the water and add as much more and do as before; draw that off and put in the third quantity of water; then take the butter out of the third water, working it well with the hand as it is taken out Salt it well, and with the salt add one teaspoonfull of clean saltpetre, made fine, to each fifteen pounds. Then put it in a cool place, and the next day work it over well, and put it down tight in layers of three inches thick, putting a little salt between the layers. Fill the tub within one inch of full, then fill that inch with salt. The tubs are better for having been used for butter before, if kept sweet, but if the tubs are new, soak them in brine till they are thoroughly salted. If the tubs are good and tight, so that the brine is kept over all the butter, it will keep for twelve months, in a suitable place, as good as when first made. If any proof is wanted, I can refer to customers who have used such butter for years. D. S.

Jaffrey, June 30, 1854.

For the New England Farmer.

SUCCESSFUL FARMING.

Mr. Editor:—I read an article some time ago in a number of the *New England Farmer*, written by H. Srow, of Woodstock, Vt. I have waited, hoping that some N. H. man would tell us as good a story as Mr. Srow's, and not seeing any yet, I thought I would give you a short sketch of my own management, feeling not exactly willing to admit that the sons of N. H. are much behind those of Vermont.

At the age of 21, I was out of health, not able to work on a farm, and I went to work for a harness maker for $8 per month. In a short time I found myself at work in Roxbury, Mass., for $16 per month, but was compelled to quit that business on account of my eyes. I returned to New Hampshire, where land was cheap. I bought an old run-down farm, paid $500 down, and gave a promise to pay $900 more, and went to work on my old level farm. The first year I cut not over 5 tons of hay, the third year I raised 1100 bushels produce,—[potatoes, corn, and the small grains, we suppose;] the fourth year cut over 25 tons of hay. I made about 100 loads of manure a year, by carting muck into my yards. There was but one man in this town that made any use of muck at that time, except a little in the hog-yard, and most of them thought I was a fool for shoveling so much mud. Well, I paid for my farm, and in three winters I collected the materials for a set of buildings, with my own hands. I cut and hewed my timber, cut and logged to the mill for my sawed lumber, dug my cellar, split and laid my stone-work, boarded and shingled my buildings, assisted the joiner in his part of the work, plastered and painted, and have a good set of farm buildings, built in the most thorough manner, and as handsome as any in town.

I keep a few tools for shoemaking, harness-making, stone-work, joiner work, &c., &c. In the winter season I make and repair almost every article that I use; in fact, I have a good breaking up plow, that I made myself, that I would not exchange for my neighbor's of the premium pattern. I had not received by heirship an equivalent to $30, at one-and-twenty, and have earned more dollars by working out, since I bought my farm, than I ever paid out for labor. I have paid over $500 interest, and have been laid up by sickness more than two years. These are all facts. If any young man who has commenced farming as poor as I was, will be encouraged by them, and say that "what man has done, man may do," I shall be well paid for scribbling down this sketch. I had forgotten to say that if I am not as well off for spending money as your correspondent at Woodstock, my friends do not call for a banker if I chance to want a little change.

B. W. Gay.

New London, N. H., 1854.

THE SEER.

BY JOHN G. WHITTIER.

I hear the far-off voyager's horn,
I hear the Yankee's trail—
His foot on every mountain pass,
On every stream his sail.

He's whistling round St. Mary's Falls,
Upon his loaded train;
He's leaving on the Pictured Rocks
His fresh tobacco stain.

I hear the mattock in the mines,
The axe-stroke in the dell,
The clamor from the Indian lodge,
The Jesuit's chapel bell!

I see the swarthy trappers come
From Mississippi's springs;
And war-chiefs with their painted bows,
And crests of eagle wings.

Behind the squaw's birchen canoe,
The steamer smokes and raves;
And city lots are staked for sale
Above old Indian graves.

By forest lake and water-fall,
I see the pedlar's show;
The mighty mingling with the mean
The lofty with the low.

I hear the tread of pioneers
Of nations yet to be;
The first low wash of waves where soon
Shall roll a human sea.

The rudiments of empire here,
Are plastic yet and warm;
The chaos of a mighty world
Is rounding into form!

Each rude and jostling fragment soon
Its fitting place shall find—
The raw materials of a state,
Its muscles and its mind!

And westering still the star which leads
The new world in its train,
Has tipped with fire the icy spears
Of many a mountain chain.

The snowy cones of Oregon
Are kindled on its way,
And California's golden sands
Gleam brighter in its ray!

Alcohol from Pea Pods.—The green pea season and the scarcity of alcohol have given rise to another unknown trade in Paris. Pea pods have been, from time immemorial, in France, at least, considered as perfectly worthless, and have been allowed to encumber the pig-pen in consequence. The collecting of this rejected matter between the hours of 7 and 9 in the morning, has now become

a regular occupation; and is followed by that class of persons who, during the remainder of the day, pick up the ends of cigars. Pea pods yield alcohol as abundantly, it has been found, as the beet-root or as pumpkins. In England, I believe, a sort of mild beer has long been obtained from them, with the admixture of sage and hops. Now that I am upon the subject of peas, I may as well state that in Paris they are always sold shelled. Those that shell them divide them into three sorts, big, middling and little. The littlest are the dearest, as they are the sweetest. Our favorite brand, the Marrowfat, esteemed on account of size, would meet with no favor here. Its very development would class it among the poorer kinds, to be sold to poor people at rates much lower than cost.—*Paris Letter to New York.*

MIXING SAWDUST WITH ASHES.

The manufacture of animal and vegetable matters—such as fish refuse, butchers'. offal, urine, sawdust, moss or peat earth—into manure, and their application to the soil, has long been a subject of anxious inquiry; and that part of it involved in the proposition of Lord Berners, of mixing sawdust with sheep's dung and urine, like other suggestions for economizing the volatile and soluble elements of manure on the farm, now so frequently wasted, is deserving of special notice at this time.

Glancing briefly at old practices first, our forefathers used sawdust for littering their stables, cow houses, sheep-pens, piggeries, and poultry houses, the whole being afterwards mixed together and used as farm-yard manure. Sawyers and carpenters, again, who had none of the above provisions, mixed it in their dung-hills for growing potatoes; while fishermen used it for smoking fish, and mixing in their ash-pits along with fish refuse, selling the compost to farmers. With these practices many localities are familiar to this day, and have been so from time immemorial.

Of these plans, the mixing of sawdust with sheep's dung, urine, slaughter-house and fish offal, is, perhaps, the most deserving of consideration, the fermentative qualities of such articles are the best adapted to overcome the comparatively indestructible nature of the dust. Hitherto the great objection to sawings of wood, as manure, has been their slow decomposition. Immediate activity is necessary to give value to manure, and this is what sawdust does not possess. Excrementary and offal matters, on the contrary, are from their nature subject to rapid decomposition, so much so, that half their fertilizing value is not unfrequently lost. Indeed it is impossible to estimate the loss arising from this source. Now, if the mixing of the two together will effect the decomposition of the former, while it avoids the loss sustained in the latter, the gain must consequently be great.

What gives peculiar value to compost of this kind is their disintegrated state; they are fit for drilling in along with the seed by corn or turnip drills at once. Their freeness from sand and other heavy and comparatively useless mineral substances is another merit. The difference between the expense of applying farm-yard manure and guano, for instance, is considerable, while the advantages gained by expedition in seed time are even of greater importance. The addition of 50 per cent. of sand and clay as when urine, fish, gut, &c., were mixed with earth, doubles the expense and time of application; and this, if the distance is great, may exceed the value of the manure itself.

The prime cost of the article would be little more than the carriage, while in most localities the supply would obviously be great. We have only to examine our timber yards for evidence of this. How many ingenious plans have even been contrived for carrying the sawdust down the stream which drives the saw-mill, or into the fire of the steam engine where steam power is used.

Now that artificial manures have become an agricultural necessity, it is the duty as well as the interest of every one to look first to the resources within his own reach for a supply, and *lastly* to the market for any balance required. To neglect the former, relying entirely upon the latter for Peruvian guano, &c., and then complain of high prices, is inconsistency and folly. Were every farmer to procure annually so many tons of sawdust, ground peat, or charred vegetable matter of any kind, which could be had for little money, and to mix them with the excrements of horses, cattle, sheep, pigs, poultry, &c., adding such other articles as peculiar circumstances required, it would exercise a very salutary effect upon the extravagant prices now paid for all kinds of artificial manures. If a farmer can thus manufacture at home as good an article for 20*s.* as he can purchase for £5, (and this can be done in many cases,) the course which he ought to steer is plain.—*Agricultural Gazette, England.*

VARIETY OF FOOD NECESSARY.

It is in vegetable as in animal life; a mother crams her child exclusively with arrow-root—it becomes fat, it is true, but alas! it is rickety, and gets its teeth very slowly, and with difficulty. Mamma is ignorant, or never thinks, that her offspring cannot make bone—or, what is the same thing, phosphate of lime, the principal bulk of bone—out of starch. It does its best; and were it not for a little milk and bread, perhaps now and then a little meal and soup, it would have no bones and teeth at all. Farmers keep poultry; and what is true of fowls is true of cabbage, a turnip, or an ear of wheat. If we mix with the food of fowls a sufficient quantity of egg-shells or chalk, which they eat greedily, they will lay many more eggs than before. A well bred fowl is disposed to lay a vast number of eggs, but cannot do so without the materials for the shells, however nourishing in other respects her food may be. A fowl, with the best will in the world, not finding any lime in the soil, nor mortar from walls, nor calcareous matter in her food, is incapacitated from laying any eggs at all. Let farmers lay such facts as these, which are matters of common observation, to heart, and transfer the analogy, as they may do, to the habits of plants, which are as truly alive, and answer as closely to every injudicious treatment, as their own horse.

The Sugar Pine of Oregon.—The sugar pine in the Rogue river county of Oregon attains great size, is remarkably straight, symmetrical and rich-colored. Its crown is as smooth and well shaped as if it had the services of a barber every month.

GARDEN AND FIRE ENGINE.

In our last volume there is a short notice of engines by a gentleman too modest to allow us to use his name, but who is thoroughly versed in the subject on which he speaks, and which we think of sufficient importance to bring into the present volume, and accompany it with an engraving. Of course, if the engine is efficient at a fire it will answer all the purposes desired of it for a garden: its size being so small as to make it portable anywhere.

Mr. Editor:—In a late number of your paper, in a notice of a garden engine, you say "It will throw water to the height of forty feet, and to the distance of seventy feet horizontally. It may, therefore, be found of use in extinguishing fires in buildings." That remark is in accordance with the general belief of the use of such engines for extinguishing fires. I have no doubt but that if any twelve of your customers who live a mile from a large fire engine, should purchase a small one, and their building should take fire, they would at least eleven of them, run for the large one at the village, and never once think of trying their own, or if they thought of it, would give it up as a foolish idea. A more mistaken idea than this of fire engines, never entered the mind of man. Fire does not wait while we run for engines, but increases in arithmetical progression, and therefore if the engine you have discribed, will not put it out when first discovered, the largest in the world cannot, if we have to run but half a mile and it then has to be drawn to the fire. I want to see a better description of the new Hitchcockengine. I know its power, and I tell you it is to create an entire change in our fire departments. Hundreds of towns in the State cannot afford to purchase a large one, who could have half a dozen of these; and three of these at proper distances, are better than a large one, because so much sooner brought to work. Again, many towns who have the large one should purchase small ones for the "outsiders," who pay their part of the expense while they are wholly unprotected. But enough for this time. If you please, I will again trouble you upon this important subject, and now only say that any of your friends who purchase the engine for garden purposes, will have a most useful and effectual fire engine. B.

Watertown, 1853.

For the New England Farmer.

MONTHLY FARMER FOR JULY.

For the first time, my *Farmer* plays the truant, this month. Whether, like some hired-men, it kept the Fourth a little too hard, whether it went as a delegate to some Platform-convention on the inalienable right of periodicals to the pursuit of happiness, or whether it took a fancy to pioneer awhile in Nebraska, concerns me little to know; but after waiting some twenty-odd days, and getting for an answer at the post office, "No, it hasn't come," until tired of it, I finally went to Boston, yesterday, and got my paper fresh from the printing office.—*Item.* One advantage of a farm near the city, is, that when one's agricultural paper fails, he can go the publishers and get another with little trouble.

It is pleasant to see by a glance at the contents of this number, that the *Farmer* is not neglected, although at this season, the fields make so large demands on both thought and effort;—the labors of the editor being lightened and encouraged, this month, by the contribution of between thirty and forty original articles, which discuss a great variety of topics. A bare enumeration of the titles of a few of these articles will indicate the extent of our loss, had we been unable to replace this single number.

Butter.—A string of proverbs for making "Butter;" a cut and description of a dog-power for "Churning;" and a complaint that "the butter wont come." In our boyhood, we once saw an old lady thrust a heated poker into a churning that wouldn't come, with the remark, "It *may* be bewitched."

Cultivation.—The "Calendar for July" gives hints on a variety of subjects; the "Double Plow" is recommended by "E. J.," of Lebanon, N. H.; and the writer of "Hoeing" says, "we seldom now

see in a corn-field any other than a very low, flat hill, if any hill at all." Those are the kind, I know, that we see in the books, while the corn-fields of farmers in this section show pretty large hills about the roots of corn.

Fruit Trees.—Two articles on "Scraping and Washing Trees;" and two on "Protecting Peach Trees" in winter, by the use of matting. I have seen the use of boughs of Evergreen, leaned up against the peach tree so as to shield its branches, recommended; two kinds of pears described and recommended.

Garden.—"Farmers' Gardens," "What a Garden should be," and "Cultivation of Strawberries."

Insects.—To those whose trees were "burned" by the canker-worm, and whose fruit was destroyed by the curculio, the various articles on insects will be interesting, even though they may afford but little hope of an immediae triumph over these our most dreaded and powerful opponents. "Caterpillars" is a hopeful article; "Habits of Insects," is instructive; two remedies for the "Curculio," one a new one, are encouraging; and so are directions for destroying the "Slimy Slug;" but the article on the ravages of the "Canker Worm," shows that all known preventives have proved only partially effective, and that the evil is increasing; yet in the proposition to raise 500 dollars as a premium for the discovery of a remedy, that spirit of determination is manifested from which much may be expected.

Manures.—On "Decomposing Bones;" "Meadow Mud and Lime;" "Cost of Manures;" and an article by Mr. Holbrook on "The Application of Lime and Ashes for the Improvement of Land." Has Mr. Holbrook ever made parcels of compost alike in all respects except in the addition and omission of lime, and by the respective effects of such composts testing the value of lime? I have tried it on a small scale, in several ways, but have not been able to perceive, with my own eyes, the least benefit whatever to vegetation or soil, either chemically, mechanically or otherwise, from the use of lime. My composts of mud in which lime was mingled have proved very valuable; and just as valuable, for aught I can see, without it. I submit these remarks in the spirit of suggestion; fully aware of the possibility of my observation, instead of the lime, being at fault; and believing, further, that if farmers will not make use of the vegetable deposits within their reach without some admixture to which they may loop their faith, then lime, or salt, or any other material, may be safely and justifiably recommended.

Stock.—"A Horse's Foot" cautions against allowing the animal to stand upon a hot-bed of manure and litter; "Introduction of Domestic Animals" into America; "French Merino Buck;" Editorial hints on "Salting Stock;" on "Cribbing," "Summer Feed for Cows and Pigs;" "South Down Sheep."

Scientific.—"Democracy of Science;" "The Effects of Oxygen in accelerating Germination;" "Production of Buds and Seeds;" "What a Whole Crop carries off."

Advantages of living on Poor Land.—One of those articles that do people good to read, by bracing up the better sentiments of the heart, inspiring gratitude and contentment, and by "vindicating the ways of God to man."

Ellen Jones.—A "Story," illustrating the danger of sending our children away from home to city or village life, even for a brief "Term" of a fashionable school, with the expectation that they will return, contented and happy, to their old occupations and circumstances.

Well Digging.—With this very practical-looking caption, we have a dissertation on "Bletonism," "Biology," "Mesmerism," "Spirit-rapping," "Money-digging" and "electrification," that in my humble opinion, should have been reserved until the people of this world are a little more advanced in knowledge than they are likely to become during this nineteenth century.

There are also three articles on the silk business; one on Wheat in New England; one on Haying; Book-farming a swamp; sensible thoughts about boys on farms, by Willis; Indian modes of storing grain, with a brief account of Colonial agriculture; New plants; Time for cutting Timber; Posts for fence; Winter in Mississippi; The Farmer's Home; Autumnal Marrow Squash; High Prices, Emigration, Sugar, &c., &c.

Winchester, July, 1854. A READER.

SAVING GRASS SEED.

Many farmers neglect to save their own grass seeds because it needs attention at a time when they are most busy with their grain and hay; but if farmers generally would make it a point to save seed for their own use, they would find their account in it, both in prime cost, and in not being imposed upon by buying foul seed from another man's farm, who had no interest in keeping their land free of weeds.

Orchard Grass is among the first to ripen, and will be ready to cut from the 20th of June to the first of July, according to the location and soil. This should be either reaped or cradled and immediately put in compact shocks, to stand a couple of weeks. The stubble may then be mowed and hayed, taking care not to disturb the shocks. When dry, the shocks should be moved very carefully to the barn for storage, as the seed shells out easily.

Kentucky Blue Grass comes in season for harvest about the same time as orchard grass. The best method of gathering the seed of this grass is by stripping the heads by hand; the process is rather slow, but no other way will bring the seed, in good condition, as it is too light and chaffy to be threshed and winnowed. At the price for which it sells in market, even this slow way pays well.

Meadow Fescue (English Blue Grass) is ripe early in July, and having a tolerably heavy seed, can be cut by the cradle or sickle, and when dry, threshed and winnowed carefully to separate the chaff.

Foul Meadow Grass ripens its seed in the last of July. We consider this as the best grass that can be raised for meadow swails and marsh lands. It is fine, nutritious and yields a great burden; and like a good natured wife—will bear a great deal of neglect without spoiling. When in head, this grass very nearly resembles red top, and is often mistaken for it. The seed is very fine and sells at a high price—as much by the bushel as clover seed, though much lighter.

Timothy seed ripens in July, and as it is contained in strong heads, it is very easily harvested

and got out, either by reaping, cradling, or with such a machine as Waggoner's clover harvester, simply taking off the heads. We wish to bespeak he a tion of farmers generally to saving the best seeds of these leading grasses.—*Ohio Cultivator.*

EXTRACTS AND REPLIES.

MACHINE FOR BRICK-MAKING.

MR. BROWN:—A year or more since, I noticed in some newspaper an account of a newly invented *brick-making machine*, by means of which the process of brick-making was much facilitated.—By this machine the clay and sand, were ground and mingled, and then subjected, after being passed into the moulds, to a mighty pressure, sufficient to render the bricks capable of being handled and conveyed at once from the machine to the kiln; thus saving the process of sun-drying, turning, &c. At that time, not being particularly interested, I did not preserve that paper. Can you tell me anything of such a machine, of its efficiency, cost, power necessary to drive it, and of the quality of the bricks made by it? If you or any of your correspondents can and will inform me as above requested, and where such a machine can be seen, I shall be much obliged.

Yours truly, E. INGHAM.

Lebanon, N. H., July 15, 1854.

REMARKS.—We have often seen bricks made by machinery. The clay and sand are mixed and pass through a hopper as grain does in the grist mill, and thence into the moulds; the followers then enter the moulds, and the straightening of a toggle joint by steam power gives an immense pressure—so great that the bricks are placed upon a barrow and wheeled away to the kiln with very few breakages. The clay is used in a much dryer state than when used by hand, and consequently there is a liability in machine-made bricks to crumble. But they are made with great rapidity—nearly as fast as a man can take them from the machine, and place them in a barrow.

We believe a machine is now in operation at West Cambridge, directly on the line of the Fitchburg Railroad, three miles from Boston.

THE SEASON IN MAINE.

FRIEND BROWN:—We are suffering badly here for want of rain. The heavens are brass over our heads, grass lands are being terribly parched, corn begins to roll, and everything suffers. The hay crop is coming rather light.

Corn has looked well, but now begins to roll: potatoes are now suffering, and will be light, unless there is rain soon. Agriculture is fearfully neglected here. This county is far behind Massachusetts. Farmers don't plow nor till.

A spinster made application to a neighbor of mine, to buy some hay of her. She said there would be about five tons. He asked how much land. *Sixteen acres*, was the reply. R. B. H.

Springvale, Me., July, 1854.

TALL GRASSES.

Mr. GEORGE WRIGHT, of Acton, Mass., has handed us a sample of Blue-joint and Red-top grass, which show what these grasses will do under favorable circumstances. The blue-joint is 6½ feet high, and the red-top 5 feet! They were grown on his farm in the south-east part of the town. The seeds of such specimens should be carefully preserved, and multiplied by future sowings.

A NEW KIND OF FENCE.

In a recent number, we gave an account of a new kind of fence in use at Windsor, Vt.; this account was taken from our columns without the proper credit being given, and has been extensively copied into most of the agricultural journals. "Grafton," who has seen the same kind of fence in use in Sullivan County, N. H., will see by the above, the reason why we do not publish his letter. We hope to hear from him on other topics.

RECLAIMING OLD FIELDS—APPLICATION OF MANURES—CALVES GNAWING WOOD

What is the best and most expeditious way of reclaiming old fields that were once good, that are of a medium texture of soil? also those of a cold, sour, heavy soil? (*a*)

Which is the best way of applying manure,—is it best to put 100 loads on an acre, or put it on 2 acres? You would not call a man very wise to starve one-half of his family for the sake of stuffing two or three. Why should farmers starve one-half of their farm for the sake of raising a great crop of corn? (*b.*)

Is there anything that will prevent calves from gnawing wood, when in the barn in the spring? (*c.*)

Although I am not a farmer now, I expect to be sometime, and by answering these questions you will greatly oblige A SUBSCRIBER.

Ludlow, Vt., 1854.

REMARKS.—(*a.*) First, drain well—this will yet be considered the beginning of good husbandry; then, on the lighter soils plow seven or eight inches deep, laying the furrow over flat, manure well, and seed down in the last of August. On the heavier soils take the same course, with the exception of laying over the furrows—these should not be left flat on wet and heavy soils, but standing up corner-wise, like a brick laid up on one of its longest sharp edges. The upper edge of the grass is barely covered in as the plow leaves it, and the field, well plowed, will present a series of ridges like the apex of the roof of a barn. After the harrow has gone over it the field has a smooth surface, with no grass in sight, and gives a mellow and sufficiently deep seed bed. This we consider the most *expeditious* mode, but do not mean to intimate that it is a better mode than the ordinary routine of the potato, corn and grain crops, unless it be on low and heavy lands.

(*b.*) The same sound judgment is to be exercised in the application of manures, that we use in plowing, seeding, building, or any other work done on the farm. It would be folly to turn up ten inches of the subsoil at once where we were

applying only twenty loads of manure to the acre, because the new earth and the fertilizer would be entirely disproportioned—there could be no profit in the result. Nor should we apply a bushel of herd's grass seed to the acre when a third, or one-half of it, is all that such an extent of land requires. The same rule will be in operation in the application of manures.

In answering your inquiry, we must have a basis mutually understood to start upon. It will not answer to take land already rich, nor gravelly knolls that never have been manured,—but the ordinary land of the farm, such as will yield a fair crop of corn, say 40 to 55 bushels to the acre. Then we should reply, unhesitatingly, it is *not* best to apply 100 loads of manure to an acre. On such land, you would probably find as much profit with 50 loads to the acre as with the application of 100 loads. With proper cultivation, and with what aid the atmosphere would impart, we think the plants would find all the nourishment they would require to produce a crop of corn as large as ought to be expected upon a single acre. The common practice, however, is, to spread the manure over *too much land*. The losses in travelling to and from the fields, in plowing, harrowing, furrowing, planting, hoeing, weeding and harvesting the crop, between one and *two* acres, are not estimated with sufficient care. It will not be doubted by any one who makes a fair trial, that it is altogether more profitable to manure liberally and cultivate well, what we undertake, than to go over a larger extent of land indifferently.

(*c.*) Calves in a perfectly healthy condition will not often contract the habit of gnawing the wood about them. They are too often neglected, do not have sufficient food, are confined within too narrow limits, or are exposed to wet and cold. If the calf is generously supplied with nourishing food, has ample and well-ventilated space and a good bed of dry litter to lie upon, he will not only *not* gnaw the boards, but give you a handsome profit in his rapid growth for the care you bestow upon him.

Will you inform us, at some future time, whether the remedy prescribed is a successful one?

A. R. H., *Lawrence, Mass.*—We thank you, not only for the cash enclosed, but for your good opinion of the *Farmer*. The corn and potatoes you speak of should be covered at different depths according to the kind of land. On a sandy loam one inch would not be too deep for corn: on heavy, wet land, half that distance. Potatoes should be covered somewhat deeper than corn.

THE CANKER WORM.

Mr. Editor:—A neighbor informed me that all his apple trees have been ravaged by the canker worm, with a solitary exception, and that was surrounded by a quantity of the ashes of anthracite coal. It seemed to me to be a fact that should be known, and perhaps you may deem it worthy of a place in the columns of your paper.

The cause is simple. The worm finds a bed of ashes no place for it to deposit its eggs.

Another eminent fruit grower informs me that he saved his trees after they had been attacked by the canker worm, by once syringing with whale oil soap, (1 pound of soap to 8 gallons water) from a garden engine. H. P. N.

BONE MEAL.

Will you inform me what bone meal is a pound, when put up in bags of from 15 to 25 pounds, for feeding to cattle?" E. S. Allen.

Jacksonville, Vt., 1854.

At retail, bone meal is sold at 3 cts. per pound—in considerable quantity at 2½ cts.

The inquiry, with regard to the coming in of cows, we cannot answer so that it would be of much value to you.

GUTTA PERCHA PIPE.

Editor of Farmer:—Dear Sir,—I wish to bring soft water from a spring about five rods distant—into my house, but have objection to lead pipe by reason of its tendency to make water unhealthy. I have heard that gutta-percha pipe is an excellent substitute for lead. Can you inform me of its qualities for this purpose, also its price, and where it can be found?

Yours truly, M. W. Kimball.

Hopkinton, N. H., July, 1854.

We have sent you a circular by mail containing the prices of gutta percha pipe, as they stood a few months since. Recently, the raw material is scarce, and the prices are higher, and are unfixed.

RELATIVE VALUE OF NEW MILK AND INDIAN CORN.

Mr. Editor:—Can you or any of your correspondents give the relative value of new milk and Indian corn as fodder for store hogs? It is a matter that I have never known to have been made the subject of accurate experiment, yet is of sufficient importance to merit attention. M.

Chester, N. H., 1854.

BOVINE WHISKABOUT HOLDERS.

Friend Brown:—A very ingenious, and of course valuable apparatus for holding a cow's whiskabout during the operation of milking, was described and figured in the *Farmer* of last week. A method I have sometimes used, though it cannot lay claim to so much scientific ingenuity, is easily performed, and is perfectly effectual. It is, to hang a chain over the hind quarters of the cow in such a manner as to enclose and press by its weight against the tail. This mode is not yet patented, but I will warrant it to satisfy all who will adopt it. Jonathan Doolittle.

Concord, June 26, 1854.

THE CROPS.

Friend Brown:—I am well pleased with your paper, and wish you much success. Our prospects for a good crop in this ancient town are very good. Grass and corn and potatoes look quite well, though probably not more than half as many potatoes are planted as usual, but more corn. Of fruit there will probably be a fair crop, with the exception of peaches; there is no sign of the palmer worm, thus far this year.

N. Piper.

Stratham, N. H., June 23, 1854.

APPLE POMACE.

In the road opposite my field is a large deposit of pomace lying near a brook that empties into my land. Will you inform me, whether a wash containing so much acid as is likely to come from that deposit, (probably twenty loads,) does not, directly or indirectly, injure my land?

Elliot, Me., 1854. SUBSCRIBER.

REMARKS.—We should not suppose that what would gradually flow away from such a heap of pomace, and into a brook, would do any harm to the land. But why keep it there? Cows and swine will eat a small portion of it, if fed to them in small parcels, and as it is believed to be rich in mineral matter, would be valuable to them. Mingled with fresh horse dung or ashes, it would be converted into good manure. Why would it not be beneficial to the orchard whence the apples were taken, by being spread thinly over the ground?

RED ANTS.

We cannot tell "W. B.," of Quechee, Vt., what will destroy the red ants of which he complains. The books inquired for may be found at most of the book-stores in Boston.

FOOD FOR HENS.

Will you state through the *Farmer*, what, in your opinion, is the best food for hens at this season, to enable them to lay, and oblige yours,

Woburn, June, 1854. A. M.

REMARKS.—Hens always need a *variety* of food in order to make them lay freely. If they are confined at this season of the year, they will require plenty of water, shade, pure air, comfortable places for roosting and laying, corn always before them, plenty of old lime, mortar or pounded oyster shells, together with a little flesh, scraps, fresh fish and tender grass.

PROFITS OF SHEEP.

Having seen in the *N. E. Farmer*, of April, 1854, an account of the profits of sheep in Maine, and having some which are considered pretty good, I send you the income of eight which I wintered in 1853. Lambs, twenty-seven dollars; wool nineteen dollars—whole amount forty-six dollars; for each sheep five dollars, seventy-five cents.

Will you inform me whether, in applying ashes to corn, it would be equally beneficial to mix with manure and put it in the hill, as to apply at the roots on the surface?

Ludlow, June, 1854. A. S.

REMARKS.—We think it better to apply the ashes at the first hoeing and cover it.

BUTTER.

MR. BROWN:—Will you or some of your readers please inform me through the *Farmer*, whether *lump* butter packed in brine, will keep as well, and come out with as good complexion as when put down in tubs *solid*, as is usually done? Also, whether the price will be as much, more, or less than tub butter, in market?

Randolph, Vt., 1854. N.

GARDEN WALKS.

Will you or some of your correspondents inform me whether coal tar will answer to cover garden walks? I have seen it used in England, where it proved well, but I do not know how to use it, and wish to be informed.

M. HUTCHINSON.

Griggsville, Pike Co., Illinois.

For the New England Farmer.

TIME FOR CUTTING GRAIN.

MR. BROWN:—Dear Sir,—I send you the following extract from Stevens's book of the farm, as it is very pertinent to your last week's editorial; and let me here say that common honesty demands that every one extracting matter from books, ought in their use of them to give credit for the source of their information. On farming, gardening, &c., there are a few standard books, and I never see an agricultural paper that I do not find matter put forth with no credit given to anybody that I can turn to some book and find in almost the very words of the writer in the paper. Books are common property, but it is no more than common justice to an author to give him credit for his matter. I would, were it not for the invidiousness of the job, analyze many of these articles, and give justice to whom justice is due.

The following experiments were made in England, by Mr. John Hannam, North Deighton, Yorkshire, and of course are equally valuable to us, and even more so to us than to English farmers; owing to the heat of our summers, grain ripens much more rapidly, and gains much more per diem, than in England, and needs earlier comparative attention.

No. 1, reaped *quite green*, 12th August, and stacked the 26th, gave a return of £11 17*s* per acre, (about $59,08.)

No. 2, reaped green, 19th August, and stacked the 31st, returned £13 6*s*, (about $66,44.)

No. 3, reaped raw on the 26th August, and stacked 9th September, returned £14 17*s* 4*d*, (about $74,12½.)

No. 5, reaped ripe on the 9th September, and stacked the 16th, returned £13 11*s* 8*d*, (about $67,76.)

A loss of £1 14*s* 8*d* ($8,50) on No. 1, compared with No. 5.
" " 5*s* 8*d* ($1,37) on No. 2, " "
A gain of £1 6*s* 4*d* ($6,50) on No. 3, " "
" " £1 5*s* 8*d* ($6,27) on No. 4, " "
" " £3 1*s* 0*d* (15,24) on No. 5, " No. 1.

Wheat reaped a fortnight before it is ripe gives an advantage on every point:—
In weight of gross produce of 13 1-5 per cent.
In weight of equal measures ½ per cent.
In weight of equal number of grains of 2½ per cent.
In quality and value above of 3¼ per cent.
In weight of straw above of 5 per cent.

Other chances are, straw of a better quality, a better chance of securing the crop, and a saving in securing it, no loss by grain tilting out of the head.

Respectfully,

R. MORRIS COPELAND.

Lexington, July, 1854.

ON THE FEEDING OF ANIMALS.—We have spoken in high terms of *Johnston's Elements of Agricultural Chemistry*, and have copied pretty freely from its pages, on several subjects. We propose now to give a chapter or two on the important topic of *Feeding Animals*, which we are sure our readers will find written in a clear and succinct style, and with with such common, practical good sense, as to commend the subject to the

most casual observer. Accordingly, in another part of the paper, we give a column or two on a matter, which we all, as farmers, ought to understand better.

The whole work is one of great interest to all cultivators and one which we should recommend to every young farmer.

PINE WOODS PASTURE AND SOUTHERN COWS.

Hundreds of cows that range in the pine woods of the Southern States, do not give a quart of milk a day, and we have often seen the milking of a cow in a pint cup without filling it. The animals are generally poor, small, scragged creatures, and their calves look like foals of the mother of the woolly horse. It is a common thing that planters with large herds have to buy butter and go without milk. The deficiency is generally charged to the climate. This is not the cause. The truth is to be found in the fact that the natural grass of the extensive pine lands of all the Southern States is almost entirely destitute of phosphate of lime, without which the cow cannot produce abundant milk; her calf cannot grow rapidly, for it gets no bone material.

Don't say, "What fools; why don't they add phosphates to their soil if it is destitute of that important ingredient of fertility?" Look in the glass—see yourself. Look at your own pastures. they may not be as bad—they may be made better.—*New York Tribune.*

We have frequently heard it asserted that the natural grasses of the Southern States "are almost entirely destitute of phosphate of lime," but we have never seen any satisfactory proof of the fact. Will the *Tribune* enlighten us on the point? We do not say that it is not a fact, but if it be one, it is too important, in a scientific and practical point of view, to rest on mere assertion.

A cow could not produce milk *at all* from food destitute of phosphate of lime, and the calf not only "would not grow rapidly without bone material," but it *would not grow at all.* On a soil destitute of phosphates, no plant capable of sustaining life can grow. If it is deficient, the produce will be deficient; *but the proportion of phosphates in the plant will be the same.* We have no proof that, by manuring plants with phosphates, we can increase the relative proportion of phosphates in the plant, while we have abundant evidence that the reverse is frequently the case. Thus, turnips manured with superphosphate of lime, contain *less* phosphoric acid than those manured with sulphate of ammonia; and it is certain that the quantity of phosphoric acid a plant contains is no index of its comparative nutritious value. Were it so, an immature plant would be more nutritious than one perfectly elaborated, the leaves of turnips twice as nutritious as the bulbs, and bran vastly more nourishing than fine wheaten flour; all of which, experience, inductive experiment, and common sense, pronounce erroneous.—*Rural New-Yorker.*

WHEAT.—The growth of wheat in the United States has increased within the last ten years, at the rate of 48 per cent., while in the two Canadas it has increased during the same period at the rate of over *four hundred per cent.* Indian corn is perhaps the article by which the fairest estimate may be drawn between the States and Canada. Taking that as a basis, we find that the increase in the United States between 1840 and 1850 has been equal to 56 per cent., while the increase in Canada of the same article for the last nine years has been 163 per cent. The comparative increase in oats has been similarly extensive.

Ohio, in 1850, produced 14,487,251 bushels of wheat, while Canada, with a much smaller number of acres under cultivation, produced the same year 16,156,946 bushels. The average produce, per acre, in Ohio is 12, and in Canada 14 1-5 bushels. Ohio produces a little over 1-7 part of the wheat raised in all the United States, and Canada a little less than 1-6 part of that amount.

COVERED AND UNCOVERED MANURE.

EXPERIMENTS BY LORD KINNAIRD, ENGLAND, WITH COVERED AND UNCOVERED MANURE:

With uncovered Manure.

		tons.	cwt.	lbs.	
1st measurement—1 acre produced		7	6	8	of potatoes.
2d do.	1 do. do.	7	18	99	do.

With covered Manure.

		tons.	cwt.	lbs.	
1st measurement—1 acre produced		11	17	26	of potatoes.
2d do.	1 do. do.	11	12	56	do.

As soon as possible after the potatoes were harvested, the field was cleaned, plowed and wheat drilled in, at the rate of three bushels per acre. As soon as the weather was suitable in the spring, the whole field got a dressing of 3 cwt. of Peruvian guano per acre. During the winter very little difference was apparent; but shortly after the application of the guano, the wheat on that portion manured by the covered dung took a decided lead, which it retained all summer. The whole field was cut on the 26th of August, 1852; the portion manured by the uncovered dung being at least four days earlier than the other. As before, the two separate portions in each half of the field were measured, cut and stooked separately. On the 4th Sept., each portion was threshed, the grain carefully measured, and the straw weighed. On account of a wet season the grain was of lighter weight than usual, in Great Britain, per bushel. The result of the experiment was as follows:

With uncovered Manure.

	Produce in grain.		Weight per bush.	Produce in straw.
acre.	bush.	lbs.	lbs.	stones lbs.
1st	41	19	61½	152 of 22
2d	42	38	do.	160 do.

With covered Manure.

1st	55	5	61	220 of 22
2d	53	47	61	210 do.

These and similar experiments have satisfied Lord Kinnaird of the advantages to be derived from having farm-yard manures put under cover. They seem so conclusive and instructive on this point as to deserve to be brought before the farming classes of this country. Not a few of your readers, we doubt not, will take measures of some kind to profit by them. It will require but a few minutes to determine the probable profits

of protecting any certain amount of yard-manure. It appears from the above results that Lord Kinnaird got about 125 bushels of wheat more from the ten acres manured with covered dung, than from the ten acres which had been manured with the uncovered. In wheat alone, then, without taking potatoes or wheat straw into account, the difference in favor of covered manures was quite considerable.

This would seem to render it evident that manures are subjected to great loss of fertilizing power by exposure to heats and storms. The experiment here given does not note the extent of the exposure.

VIEW OF FARMS.

By reference to our advertising columns, it will be seen that the Committee on Farms for Middlesex County, propose to commence their annual tour of examination about the first of September. It is their duty to examine entire farms, also meadows, orchards, cranberry meadows, forest trees, &c. &c. The competition on entire farms has not heretofore been wide enough. The committee feel confident that there are well-conducted and profitable farms in every part of the county that have not been officially examined, and upon which no report of the mode of management has ever been given to the people. It is hoped that this year the applications will be more numerous.

ADVERTISING DEPARTMENT.

☞ A limited number of advertisements of an appropriate character will be inserted in the monthly Farmer at the following

RATES.

For one square 15 lines, one insertion.....$1,00
For each subsequent insertion.....50

☞ The above rates will be charged for all advertisements, whether longer or shorter.

Super-Phosphate of Lime.

THIS celebrated Fertilizer, where it has been fairly tested the last year, has been found equal, and in many cases superior to the best Peruvian Guano in its immediate effect, and much more permanently beneficial to the land. It is adapted to any soil in which there is a deficiency of *Phosphate*, which is often the case. All crops are benefited by its application. It is composed of ground bone, decomposed by sulphuric acid, to which is added a due proportion of Peruvian Guano, Sulphate of Ammonia, &c.

For sale, with full directions for use, in bags of 150 pounds each. No charge for package. All bags will be branded "C. B DeBurg, No. 1 Super-Phosphate of Lime."

GEO. DAVENPORT,
Agent for the manufacturer, 5 Commercial, corner of Chatham Street, Boston.
Feb. 18, 1854. tf*

Fertilizers.

BEST PERUVIAN GUANO.
Super-Phosphate of Lime.—"DeBurg's No. 1."
Poudrette, of the best quality.
Ground Plaster, suitable for agricultural purposes.
Ground Bone, Bone Dust and Burnt Bone.
Also, Grass Seeds of reliable quality at the lowest market price.

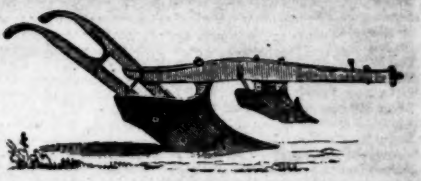
GEO. DAVENPORT,
5 Commercial, corner of Chatham Street, Boston.
Feb. 18, 1854. tf*

Bound Volumes.

BACK VOLUMES of the NEW ENGLAND FARMER, elegantly bound in Muslin, Gilt and Embossed, are now for sale at this office.

THE BOSTON AND WORCESTER

EAGLE DOUBLE PLOWS.



THE superior merits of these Plows consist in

1. The mode of attaching the forward mould-board to the beam, by which great strength and durability are secured, as also the various desirable changes in debt of work and relative depth of each plow, the same being regulated to any shade of nicety, with perfect facility:

2. The entire and handsome overturning of the sod furrow, by the forward mould-board, to the extent of the whole width of furrow taken by the plow, placing it beneath, out of the way of the teeth of the harrow, cultivator, or other implement, so that it is in no case dragged to the surface in the after cultivation of the crop:

3. The thorough and finished work done by the rear mould-board, in taking up its furrow of under soil and sifting or scattering it over the inverted sod, so as to entirely fill to the surface, and at the same time break open any undue cohesion of the soil, leaving the plowed land in a perfectly pulverized condition, requiring little labor with the harrow or other surface-working instrument,—and indeed, in all tolerably free loams, rendering the use of these instruments, as pulverizers, quite unnecessary:

4. The remarkably light draught of the plow, in proportion to the amount of work and the thoroughness of pulverization accomplished.

Several sizes of the BOSTON AND WORCESTER EAGLE DOUBLE PLOW, are made by the subscribers, from patterns of their own original invention. They invite their friends and customers to examine these Plows, as to quality and durability of material, thoroughness and finish of construction, and to test their working properties.

Manufactory at Worcester, and Warehouse, Quincy Hall, over the Market, Boston.

RUGGLES, NOURSE, MASON & CO.
April 30, 1853.

Cranberry Plants.

BELL, or Egg shaped Variety—commonly raised in New England, and no doubt is the best variety for cultivation—they are hardy and prolific—sometimes produce over 250 bushels per acre, after 2 years, and needs but little cultivation. Circulars relating to culture and price will be forwarded to applicants.

F. TROWBRIDGE,
New Haven, Conn
Feb. 18, 1854. tf*

Fruit and Ornamental Trees.

The proprietors offer for sale an extensive assortment of fruit and ornamental trees, comprising all the choice standard varieties, for the Garden or Orchard; also Currants, Gooseberries, Grape Vines &c. 1000 Buckthorn and Arbor Vitæ for Hedges.

S. & G. HYDE.
Newton Corner, March 18, 1854. w*tf

J. H. HAMMOND,

ARCHITECT.

THE subscriber offers his services to those about erecting new, or altering old, buildings. He will furnish drawings and working plans, specifications, and every thing in relation to a clear understanding of what is wanted. He thinks he is able to present some new views in the construction of Barns, or in altering old ones, whereby more conveniencies may be obtained and at less expense. His charges will be so moderate as to enable every farmer to avail himself of his services.

Address J. H. HAMMOND, Grafton, Mass.
May 27, 1854.

Bull Calf for Sale,

Dropped June 29th, by a very superior 3 year old heifer, who is full blooded Durham and Ayrshire stock, and sired by the fine Jersey Bull, belonging to SAMUEL HENSHAW, Esq. Apply to

J. J. DIXWELL,
66 State Street, Boston.
July 8, 1854. tf

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EDWARD HARRISON'S

PATENT GRIST MILL

Received the highest premium at the World's Fair; and more than two hundred and fifty of them have been sold within two years. The stones are French Burr; the frames and hoppers, cast iron; and the spindles, cast steel. They will work both for flouring and on all kinds of grain, and will keep in repair longer than any other mill. Having just completed my new buildings, for manufacturing and running them, I am now prepared to supply all orders for all the sizes, from twenty inches to four feet diameter, including a superior farm and plantation mill, which will grind corn in the best manner, by horse power, or even by hand. Public attention is invited to this small mill in particular. Descriptive circulars, with cuts, sent to post-paid applications.

EDWARD HARRISON,
Sole manufacturer, and proprietor of the Patent.
New Haven, Ct.

April 29, 1854. 6m

Ray Grass.

300 BUSHELS Perennial Ray Grass.
100 bushels Italian Ray Grass.

These valuable grasses give a rapid and handsome growth for lawns, and the crop, which should be cut three times during the season, makes a sweet hay or a valuable green feed for soiling. For sale by PARKER, WHITE & GANNETT, 47, 59 & 63 Blackstone Street, Boston.

July 8, 1854. 4w

AGRICULTURAL

WAREHOUSE AND SEED STORE,

QUINCY HALL, OVER THE MARKET, BOSTON.

THE Proprietors having recently enlarged their Warehouses, and increased their works at Worcester, would respectfully invite the attention of Planters and Dealers in AGRICULTURAL & HORTICULTURAL IMPLEMENTS, GARDEN and FIELD SEEDS, &c., to their stock, comprising the largest and best assortment to be found in the United States, which are offered at low prices.

Of PLOUGHS—we have the greatest variety of kinds and sizes.

Improved Sod Ploughs, for flat furrows—improved Scotch Ploughs for lapped furrows—improved Stubble Ploughs, which are especially adapted to deep tillage, or varying from 6 to 12 inches in depth.

Self-sharpening, Hill Side, Sub-soil, Double Mould, Corn, Cotton and Rice Ploughs.

Cylinder Hay Cutters, Smith's Patent Lever Gate, and others Patent Corn Shellers, with and without Separators. Seed Sowers, of various sizes and prices. Batchelder's patent Corn Planter, improved. Fanning Mills of various sizes, Horse Powers, Threshing Machines, Thermometer Churn, Dash Churn, Corn Planters, together with almost every article wanted on the Plantation, Farm or Garden.

Illustrated Catalogues sent gratis on application, post-paid.

RUGGLES, NOURSE, MASON & CO.

Boston and Worcester, Mass., Jan. 1, 1853. tf.

Morrill's Ditching Machine,

PATENTED MAY 10, 1853.

A NEW, cheap, and useful implement for ditching soft land Operated by two men, without the aid of horses. Application for machines or rights may be made to the subscriber, JONATHAN W. MORRILL, Hampton Falls, N. H., or to RUGGLES, NOURSE, MASON & CO., Boston.

Boston, Sept. 13, 1853.

MR. J. W. MORRILL:—Dear Sir,—I have this day put in operation on my farm in Ipswich one of your Patent Ditching Machines. The land selected for trial was a salt marsh, bounded by upland on one side, on the other by a creek; we had therefore an opportunity of testing it on both hard and soft land. I have great pleasure in stating that the machine worked to my entire satisfaction, although it was used by two men who had never before seen one in use. They cut a ditch at the rate of over six rods per hour, 2 feet four inches in depth. I consider it a very valuable labor-saving machine. Yours truly,

J. NOURSE.

We, the undersigned, have seen Morrill's Patent Ditching Machine in operation, and certify that we think it far superior to other modes of ditching, and consider it a very valuable labor-saving machine.

DAVID NUDD, Hampton, N. H.		ROBERT DOW, Salisbury, Mass.	
J. M. PALMER,	" "	ABEL MERRILL,	" "
JOHN B. BROWN, Hampton Falls.		TRUE PIKE,	" "
JER'H LANE, Hampton Falls.		MARK B. TRUE,	" "
MOSES TRUE, Salisbury, Mass.			

May 27, 1854. tf

Oyster Shell Lime.

I HAVE on hand, and am constantly manufacturing this article for farming purposes. It has also been extensively used during the last season for laying the walls of cellars, and stone work of a similar nature, and is found to answer this purpose equally as well as the best stone lime. After 1st March, the prices will be as follows:

For less than 50 bbls....50c
Or over 50 bbls....40c
In Bulk—a large car load containing 80 bbls....30c
A small car load containing 40 bbls....35c ₱ bbl.

delivered at either depot in Boston or Charlestown.

JAMES GOULD,
Feb. 18, 1854. tf 70 State Street

To the Farmers of Middlesex.

THE Committee on Farms, of the *Middlesex Agricultural Society*, hereby give notice that they will commence their view of Farms on or about the *first of September*. Those persons desirous of competing for the premiums, are requested to notify either of the undersigned at an early day. From a pretty thorough examination of the farms in the county in former years, the committee believe that there are very many highly worthy an examination, and that ought to be reported upon—they therefore hope the applications will be numerous.

CHARLES BABBIDGE,
SAMUEL CHANDLER,
SIMON BROWN. } *Committee.*

Concord, July 22, 1854. 3w